DATA PROJECTOR

EP7155i/TX7156/EX7155e/DP3511/DX61/DM113/X100 (DP-3518)

EP1691i/TW1692/EW1691e/DP6511/DW61/DM115/W100 (DP-7618)

SERVICE MANUAL

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1. COMPLIANCE OF SAFE REPAIR

Be sure to read this Service Manual before providing services. In the projector, full consideration is taken to ensure safety for fire, electric shock, injury, harmful radiation, and substance. Therefore, observe the notice described in this Service Manual so that safety is kept when providing services. Moreover, be sure to observe the notice described in the Instruction Manual.
Pay attention to the following items during service inspection.

1.1 Cautions during disassembling and assembling

1. This equipment contains parts under high voltage. When making repairs, etc.
   Be sure to pull out the power plug beforehand to insure safety.
2. Parts may be very hot immediately after use.
   Make sure the equipment has cooled off sufficiently before carrying out repairs.
3. Make sure that parts and screws and wiring, etc. are returned to their original positions.
   Tube, tape and other insulation materials have been used for safety reasons.
   The internal wiring has been designed to avoid direct contact with hot parts or parts under high voltage when using clamps or other tools.
4. The parts used in this device have special safety features such as flame-resistance and anti-voltage properties. When replacing parts, always use parts supplied from the factory.
5. After finishing operations make sure that all parts and wires have been returned to their original position and that there has been no deterioration of the area around the location that was worked on.
6. Be sure to use a grounding strap (wrist band) during repair and inspection.

1.2 Lamp

During current conduction, the lamp is in the high-temperature state. In this case, pay careful attention because a high voltage is used. When replacing a lamp, replace it after confirming that the lamp has gotten cold sufficiently.

1.3 Lens

Do not look into a lens during projection. This damages your eyes.

2. SPECIFICATIONS

2-1. Summary Specifications

Model	EP1691i serial (DP-7618)	EP7155i serial (DP-3518)
Display type	TI DMD Type A, 0.65 inches, WXGA	TI DMD Type X, 0.55 inches, XGA
Resolution	WXGA 1280x800 Native (16:10)	XGA 1024x768 Native (4:3)
Color	Brilliant Color	
Projection distance	1.5 meters ~ 10 meters	1 meters ~ 10 meters
Projection screen size	39” to 295” (overdrive 300”)	34” to 260” (overdrive 300”)
Projection lens	Manual focus / Manual zoom	
Throw ratio	1.53 ~ 1.76	1.9 ~ 2.2
Vertical keystone correction	+/- 15 degrees	
Projection methods	Front / Rear-Desktop & Front / Rear-Ceiling	
Data compatibility	IBM PC or compatibles (VGA, SVGA, XGA, SXGA, WXGA)	IBM PC or compatibles (VGA, SVGA, XGA, SXGA, UXGA), Mac
SDTV/EDTV/ HDTV	480i/576i, 480i/576p, 720p, 1080i (thru RGB HD-15)	
Video compatibility	NTSC, PAL, SECAM	
H-Sync	15, 30 – 91.4 KHz	15, 30 – 91.4 KHz
V-Sync	43 - 87 Hz	43 - 87 Hz
Operation temperature	5° ~ 35°C	
Dimensions	220 mm (W) x 71 mm (H) x 178 mm (D)	
Weight	3.2 lbs (typical)	
AC Input	AC Universal 110 ~ 240, Typical @ 110 VAC (100~240)/±10%	
Power consumption	Typical 230W (ECO mode) Typical 280W (Normal mode)	Typical 230W (ECO mode) Typical 280W (Normal mode)
Brightness	ECO 1950 lm(Avg.), 1550 lm (Min) Normal 2550 lm(Avg.), 2150 lm (Min)	ECO 1900 lm(Avg.), 1500 lm (Min) Normal 2500 lm(Avg.), 2100 lm (Min)
Stand By	< 1 watts	
Lamp	Normal Mode: 220W; Eco Mode: 176W	
Audio speaker	1W / 4 ohm mono speaker	
PC	RGB	
Digital	HDMI	

Video	Composite video (RCA X 1)
	S-Video (DIN)
Audio	3.5mm Mini-jack
USB	USB connector type B
Security	Kensington lock

2-2.DMD Specifications

	Unit	Min.	Max.	Typical	Notes
DMD type (EP7155i)				TI 0.55" XGA 12 deg LVDS Type X	
Number of Columns (EP7155i)	Pixel			1024	
Number of Rows (EP7155i)	Pixel			768	
DMD type (EP1691i)				TI 0.65" WXGA 12 deg LVDS Type A	
Number of Columns (EP1691i)	Pixel			1280	
Number of Rows (EP1691i)	Pixel			800	
Panel Operating Temp.	℃	10	65		
Ambient Temp	℃			25	

2-3.Color Wheel

Spec.	Unit	Min.	Max.	Typical	Notes
Color Segment				RYGWB	82/80/78/91/29 (44mm)

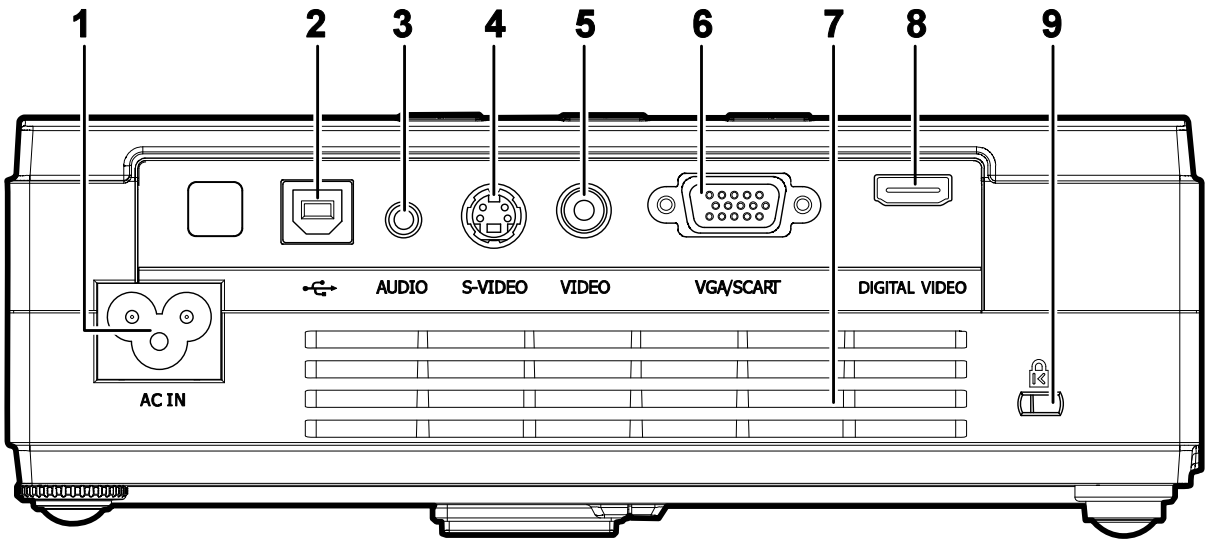
2-4. Lamp

Spec.	Unit	Min.	Max.	Typical	Notes
Lamp Output Power	W			220W+/-5% (Normal) 176W+/-5% (ECO)	@Vo from 50V to 120V @Vo from 50V to 120V
Driver				PWB ASSY Power Ballast Board	
Soft start Current	A	2.4	2.8	2.6	
Maximum Warm-UP Current	A	4.0	4.6	4.3	
Reflector Type				FEX92	

2-5. Input/output connectors

PC	**VGA and HDMI**
	USB
Video	**Composite video (RCAx1)**
	S-Video (Mini-DIN)
Audio	**Mini-jack**
Security	**Kensington slot**

2-6. I/O Ports Illustration about Projector.

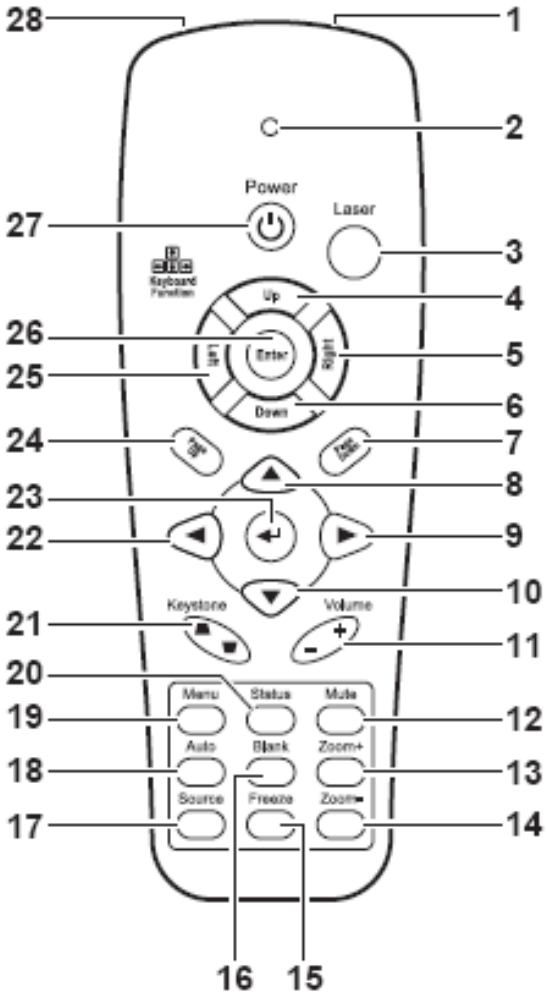


ITEM	LABEL	DESCRIPTION
1.	AC IN (Power)	Connect the supplied power cord
2.	(USB)	Connect the USB cable from a computer
3.	AUDIO	Connect the audio cable from an audio input device.
4.	S-VIDEO	Connect the composite or S-video cable from a video device
5.	VIDEO	Connect a composite video cable from a video device.
6.	VGA/SCART	Connect a VGA cable from a computer
7.	Ventilation opening	Do not obstruct to keep the projector cool.
8.	DIGITAL VIDEO	Connect a DIGITAL VIDEO cable from any video source
9.	(Security Lock)	Secure to permanent object with a Kensington® Lock system

Note:

If your video equipment has both S-VIDEO and RCA jacks (composite video) connect to the S-VIDEO connector. S-VIDEO provides a better quality signal

2-7. Remote Control Parts



Important:

1. Avoid using the projector with bright fluorescent lighting turned on. Certain high-frequency fluorescent lights can disrupt remote control operation.

2. Be sure nothing obstructs the path between the remote control and the projector. If the path between the remote control and the projector is obstructed, you can bounce the signal off certain reflective surfaces such as projector screens.

3. The buttons and keys on the projector have the same functions as the corresponding buttons on the remote control. This user's manual describes the functions based on the remote control.

ITEM	LABEL	DESCRIPTION
1.	IR transmitter	Transmits signals to projector
2.	Status LED	Lights when the remote control is used
3.	Laser	Press to operate the on-screen pointer
4.	Up	Up arrow when connected through USB to a PC
5.	Right	Right arrow when connected through USB to a PC
6.	Down	Down arrow when connected through USB to a PC
7.	R (Right)	R key for emulation of USB mouse right click via USB
8.	▲/Page+ (Up arrow)	Page Up key when connected through USB to a PC Navigates and changes settings in the OSD
9.	►/Re-SYNC (Right arrow)	Navigates and changes settings in the OSD Re-Sync VGA source, adjustment for phase, tracking, size, position when OSD off
10.	Page-/ ▼ (Down arrow)	Page Down key when connected through USB to a PC Navigates and changes settings in the OSD
11.	Volume +/-	Adjusts volume
12.	3 (ZOOM)	Zoom in and out
13.	6 (AV mute)	Display blank & Audio mute
14.	9 (Video)	Input source select Video
15.	8 (VGA)	Input source select VGA
16.	5 (Freeze)	Freeze/unfreezes the on-screen picture
17.	7 (S-Video)	Input source select S-Video
18.	4 (D.Video)	Input source select digital video

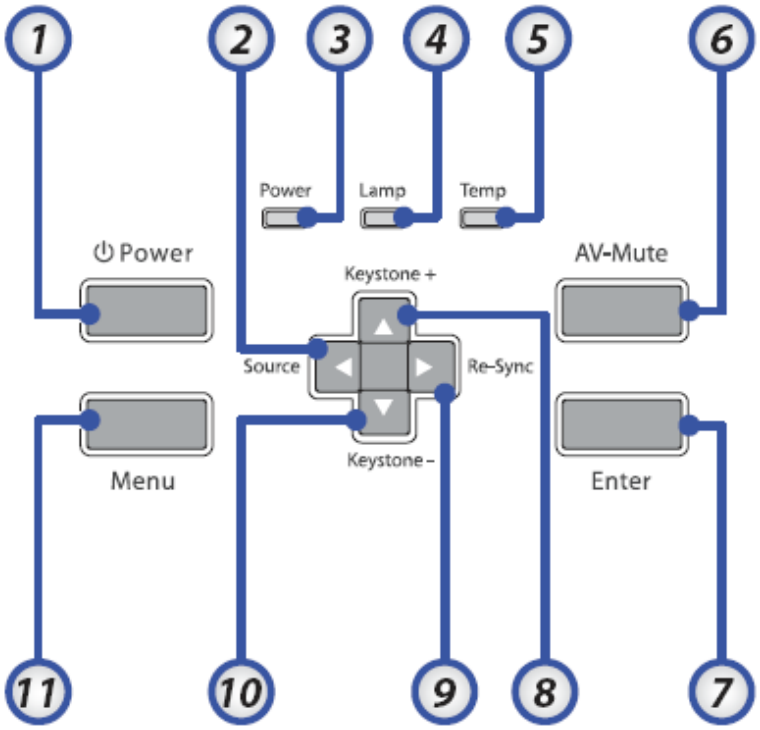
19.	1 (Brightness)	Brightness menu
20.	2 (Menu)	Opens the OSD
21.	Keystone +/-	Corrects image-trapezoid (wider top/bottom) effect
22.	◄ (Source)	Navigates and changes settings in the OSD Input source selection when OSD Off
23.	◄┘ (Enter arrow)	Changes settings in the OSD
24.	L (Left)	L key for emulation of USB mouse left click via USB
25.	Left	Left arrow when connected through USB to a PC
26.	Enter	Enter key when connected through USB to a PC
27.	Power	Turns the projector On or Off
28.	Laser	Use as on-screen pointer. **DO NOT POINT IN EYES**.

Note:
The remote control can only interface with a computer when connected to the computer through a USB cable connection. The computer cable connects a computer to the projector for display purposes only.

Remote Control Operating Range

The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 7 meters (23 feet) and 15 degrees above or below the projector level.

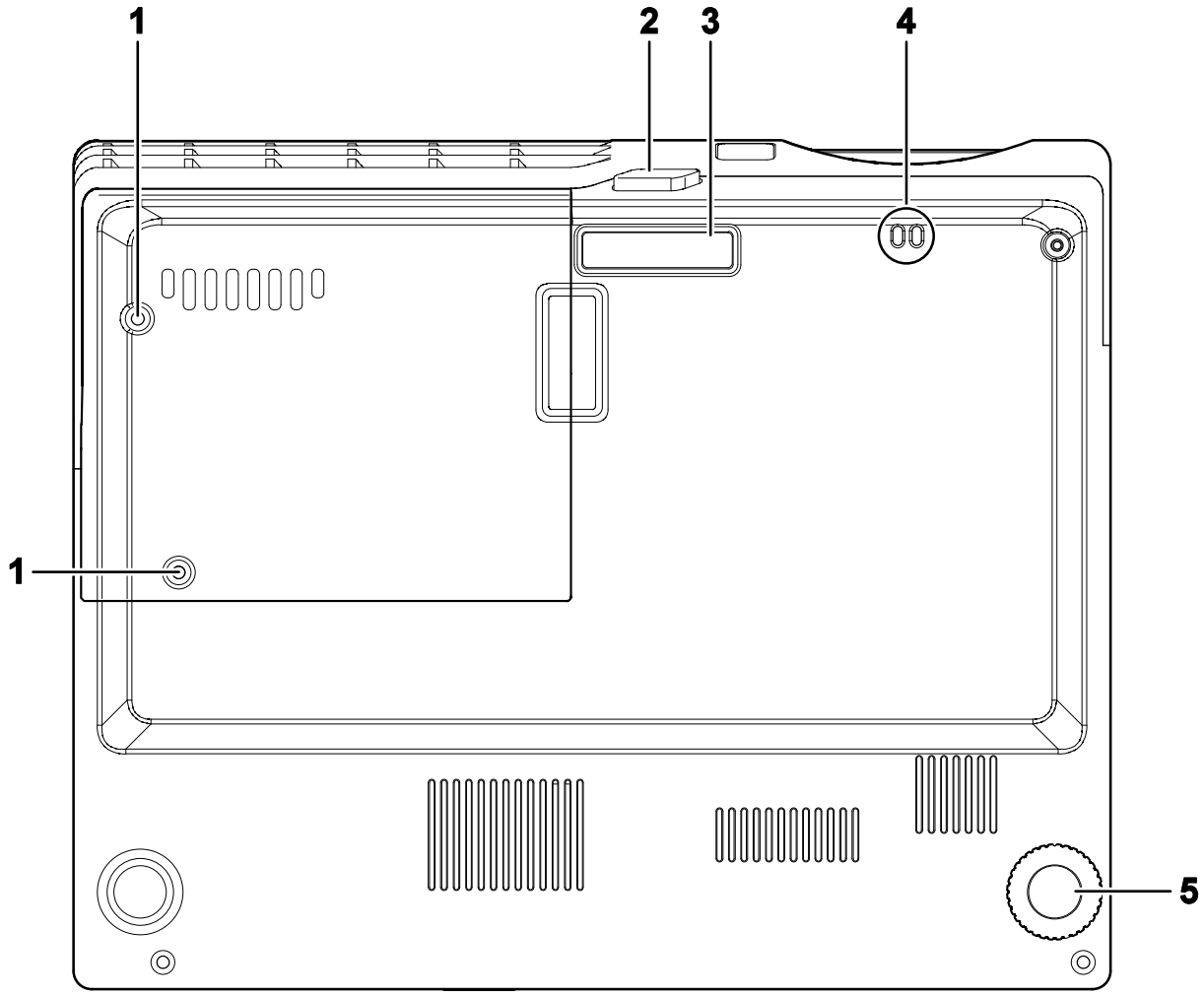
2-8. Key Pad -- Top view - On-screen Display (OSD) buttons and LEDS



ITEM	LABEL	DESCRIPTION	
1.	Power	Turns the projector On or Off	
2.	◄/Source (Left arrow)	Select the input device, Navigates and changes settings in the OSD	
3.	Power LED	on	LED Green still on
		stand-by mode	LED Flashing Green off 2.5s / on 1s
		Warming up mode	LED Flashing Green off 2.5s / on 1s
		Off (cooling down)	LED Flashing Green 10s => LED Green off
4.	Lamp LED	On	Lamp not ready—do not press the power button
		Off	Lamp is in normal state
5.	Temp LED	On	System over temperature
		Off	Normal state
6.	AV-Mute	Display blank and audio mute	
7.	Enter	Enter key for the OSD menu	

8.	▲/Keystone+ (Up arrow)	Corrects image-trapezoid (wider bottom) effect Navigates and changes settings in the OSD
9.	►/Re-Sync (Right arrow)	Re-Sync VGA source, adjusts phase, tracking, size, position Navigates and changes settings in the OSD
10.	▼/Keystone - (Down arrow)	Corrects image-trapezoid (wider top) effect Navigates and changes settings in the OSD
11.	Menu	To switch OSD menu On or Off

2-9. Bottom view



ITEM	LABEL	DESCRIPTION
1.	Projection lamp cover screws	Remove when changing the lamp
2.	Height adjuster button	Push to release height adjuster
3.	Height adjuster	Adjuster drops down when adjuster button is pushed
4.	Strap mount	Fasten the lens cap cover
5.	Tilt adjuster	Rotate adjuster lever to adjust angle position

2-10. Remote and Keypad

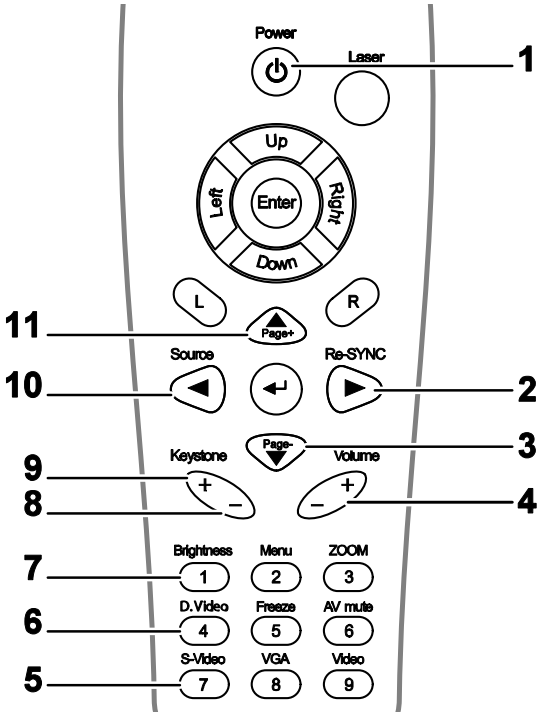
Remote Control Operating Range

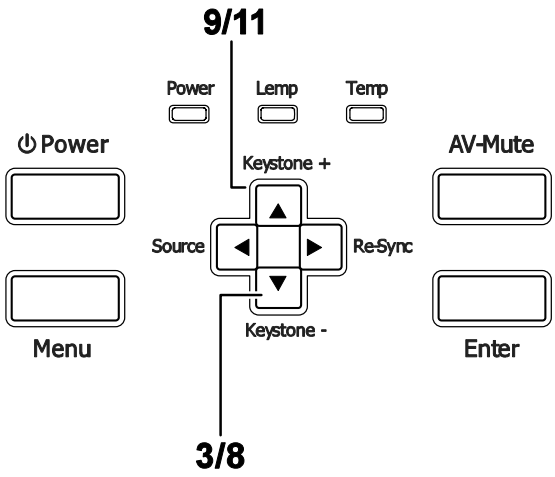
The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 10 meters (33 feet) and 30 degrees above or below the projector level.

Projector and Remote Control Buttons

The projector can be operated using the remote control or the buttons on the top of the projector. All operations can be carried out with the remote control; however the buttons on the projector are limited in use. The following illustration shows the corresponding buttons on the remote control and on the projector.

Remote Control

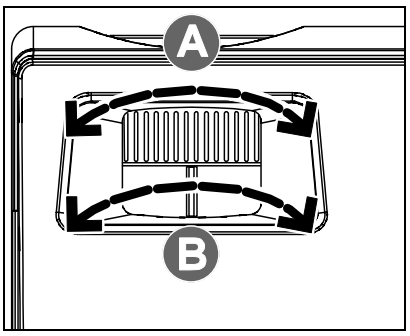




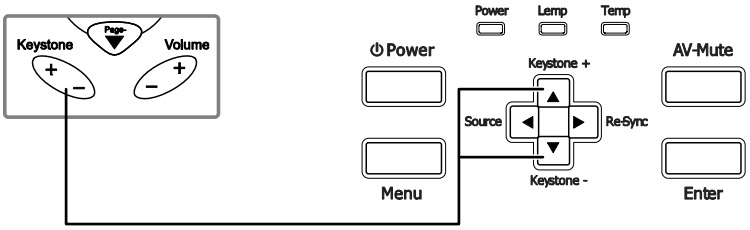
Some buttons on the projector have two functions. For example, item 9/11 on the projector functions both as the keystone button and as the up arrow key in OSD menus.

2-11. Adjusting the Zoom, Focus and Keystone

1. Use the **Image-zoom** control (on the projector only) to resize the projected image and screen size B.
2. Use the **Image-focus** control (on the projector only) to sharpen the projected image A.



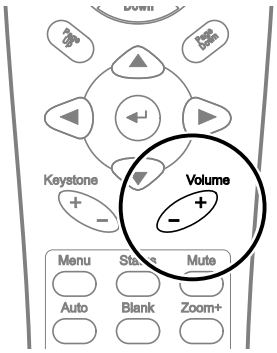
3. Press the **Keystone** button on the remote control. The corresponding buttons are seen on the panel



4. Use the **Keystone** button to correct image distortion.

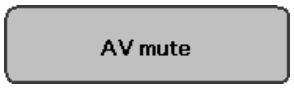
2-12. Adjusting the Volume

1. Press the **Volume +/-** button on the remote control

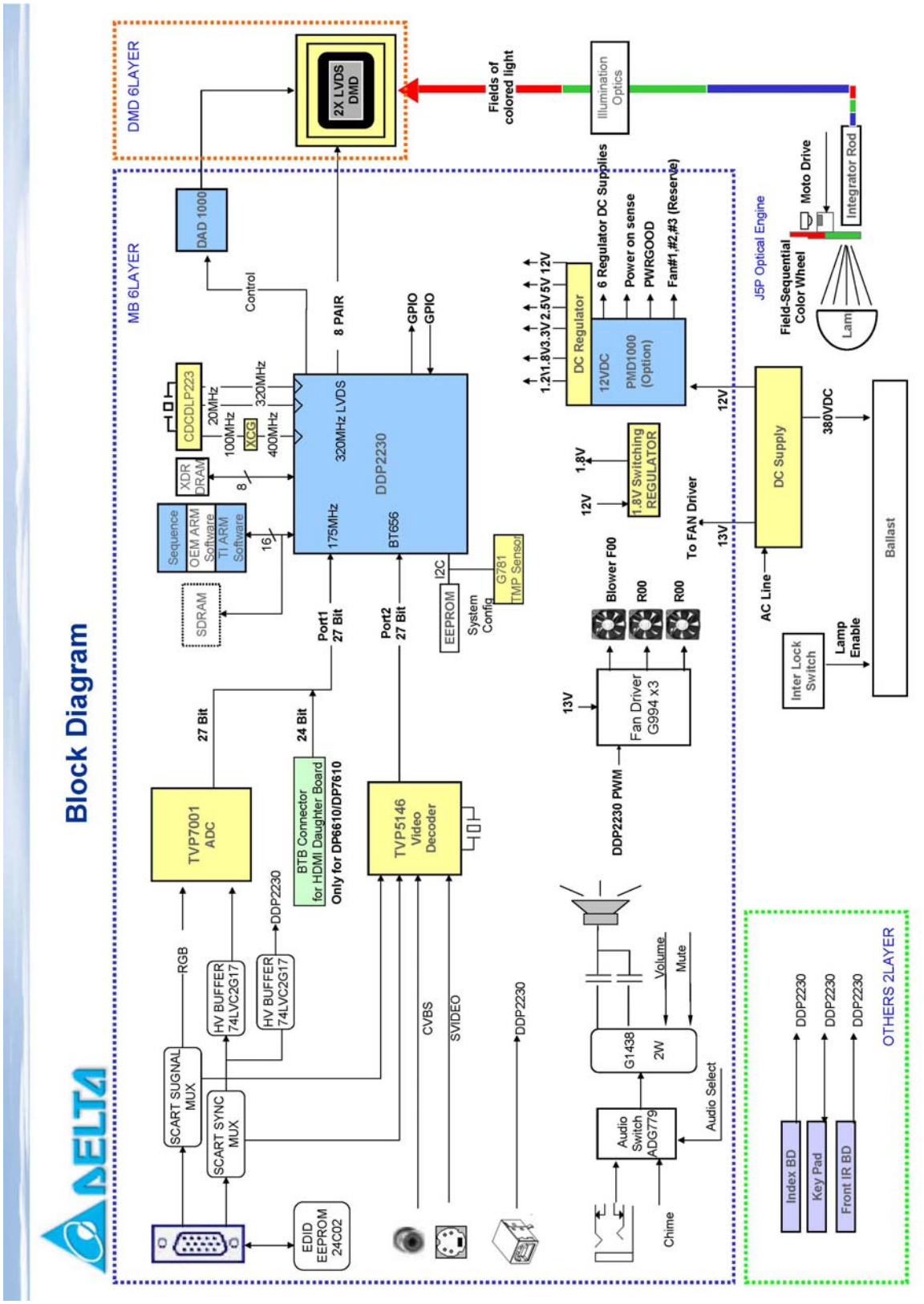


2. Use the **Volume +/-** button to adjust the level.

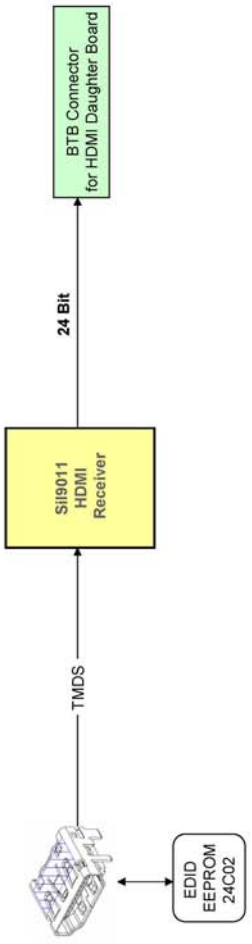
3. Press the **AV mute** button on the remote control to turn off the volume.



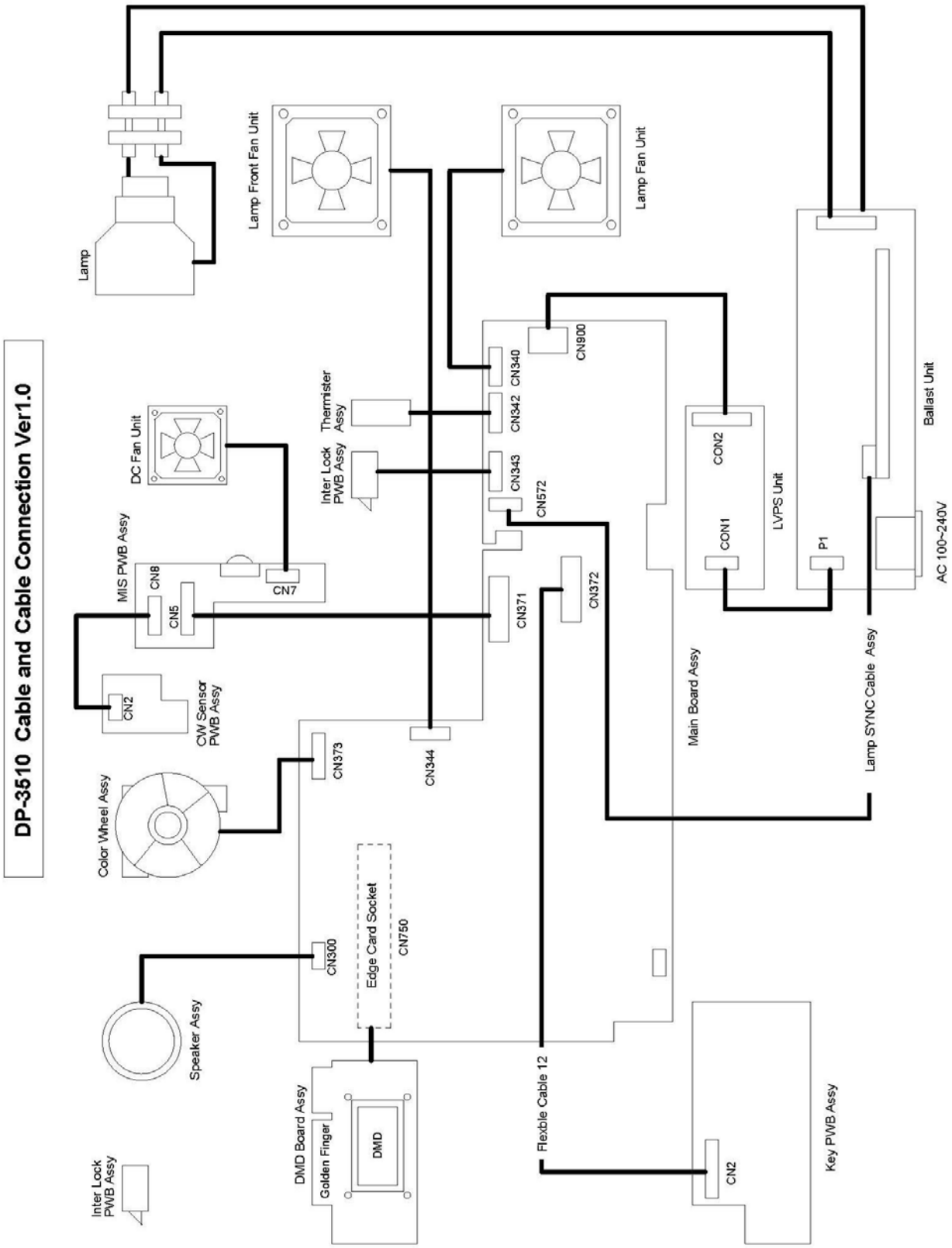
2-13. Block Diagram



HDMI Daughter Board Block Diagram

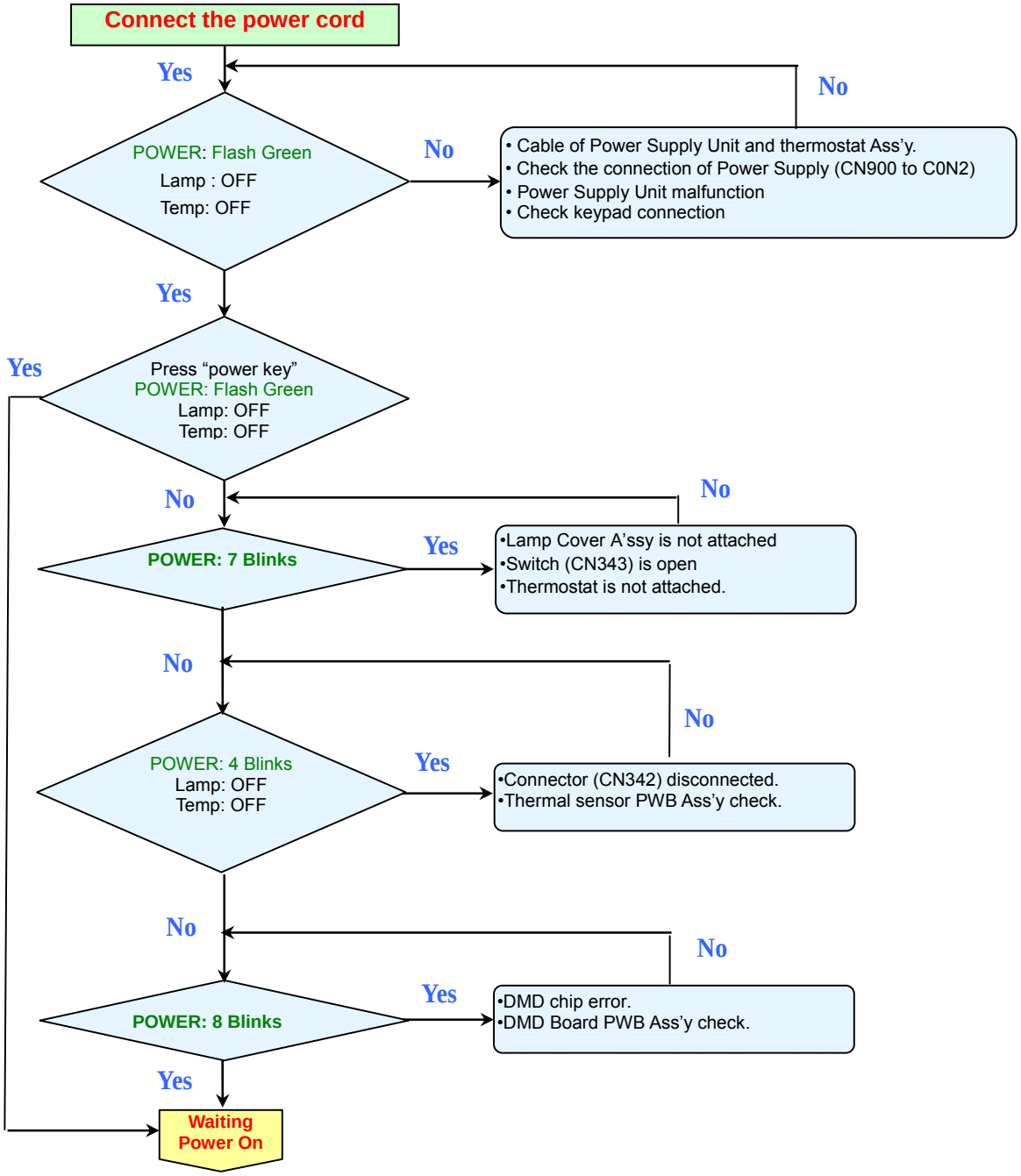


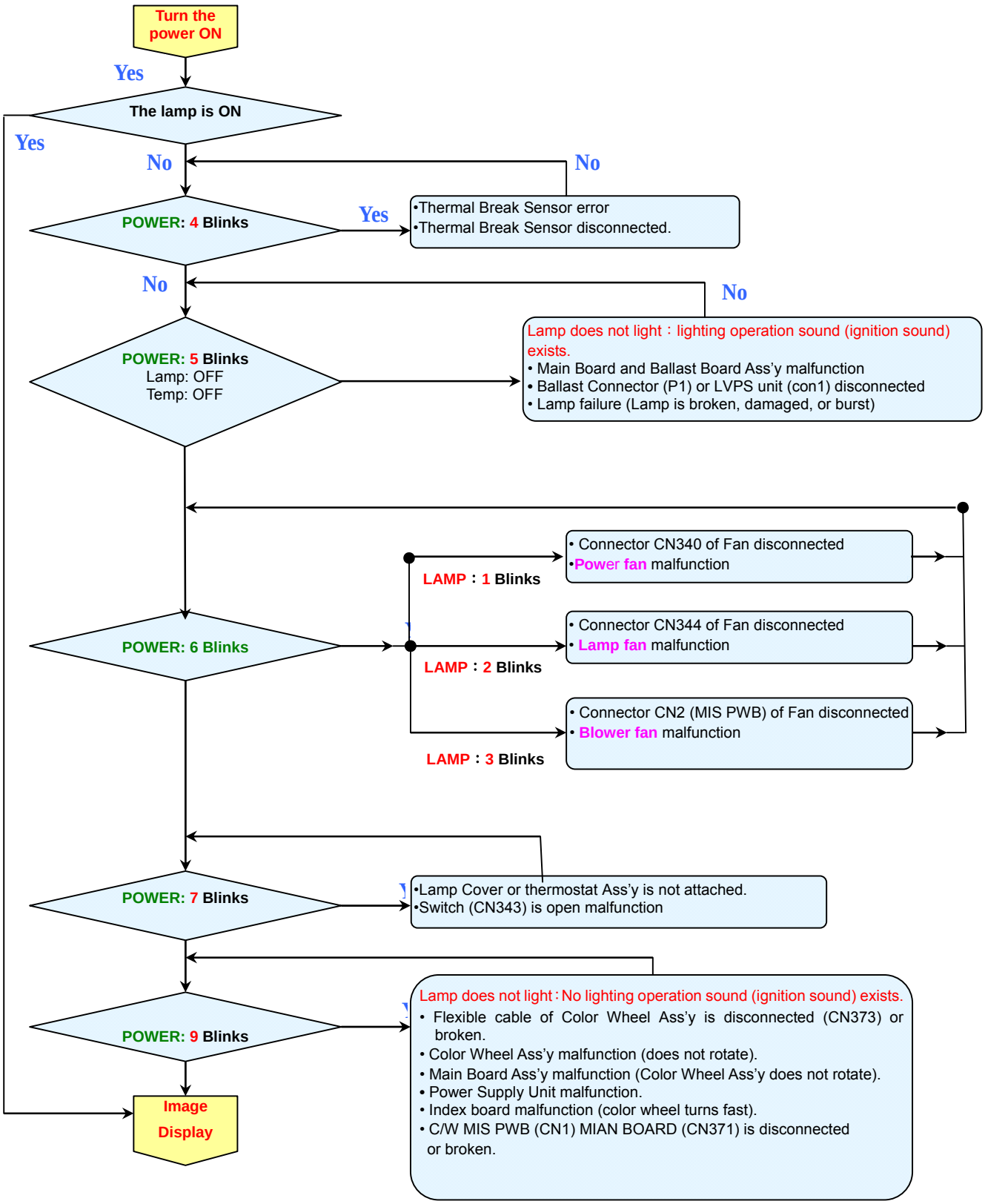
2-14. Wire diagram



3. TROUBLE SHOOTING

By checking operations during normal usage time, it is possible to carry out judgments on malfunction to a certain extent. Carry out the following checks before disassembling the equipment.




Turn the power ON
Yes
The lamp is ON
Yes
No
No
POWER: 4 Blinks
Yes
•Thermal Break Sensor error
•Thermal Break Sensor disconnected.
No
No
POWER: 5 Blinks
Lamp: OFF
Temp: OFF
Lamp does not light：lighting operation sound (ignition sound) exists.
• Main Board and Ballast Board Ass'y malfunction
• Ballast Connector (P1) or LVPS unit (con1) disconnected
• Lamp failure (Lamp is broken, damaged, or burst)
POWER: 6 Blinks
LAMP：1 Blinks
• Connector CN340 of Fan disconnected
•Power fan malfunction
LAMP：2 Blinks
• Connector CN344 of Fan disconnected
• Lamp fan malfunction
LAMP：3 Blinks
• Connector CN2 (MIS PWB) of Fan disconnected
• Blower fan malfunction
POWER: 7 Blinks
•Lamp Cover or thermostat Ass'y is not attached.
•Switch (CN343) is open malfunction
POWER: 9 Blinks
Lamp does not light：No lighting operation sound (ignition sound) exists.
• Flexible cable of Color Wheel Ass'y is disconnected (CN373) or broken.
• Color Wheel Ass'y malfunction (does not rotate).
• Main Board Ass'y malfunction (Color Wheel Ass'y does not rotate).
• Power Supply Unit malfunction.
• Index board malfunction (color wheel turns fast).
• C/W MIS PWB (CN1) MIAN BOARD (CN371) is disconnected or broken.
Image Display

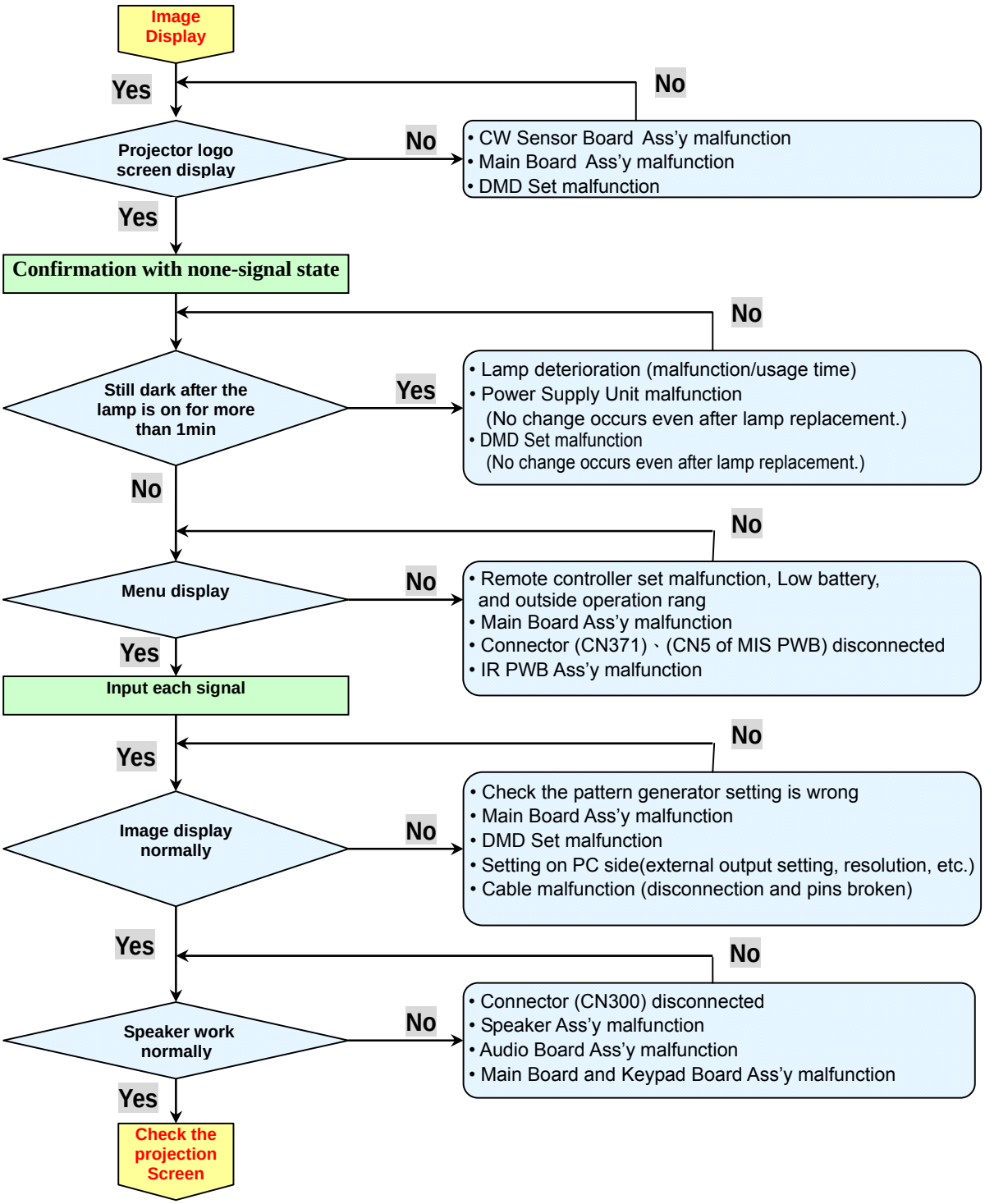
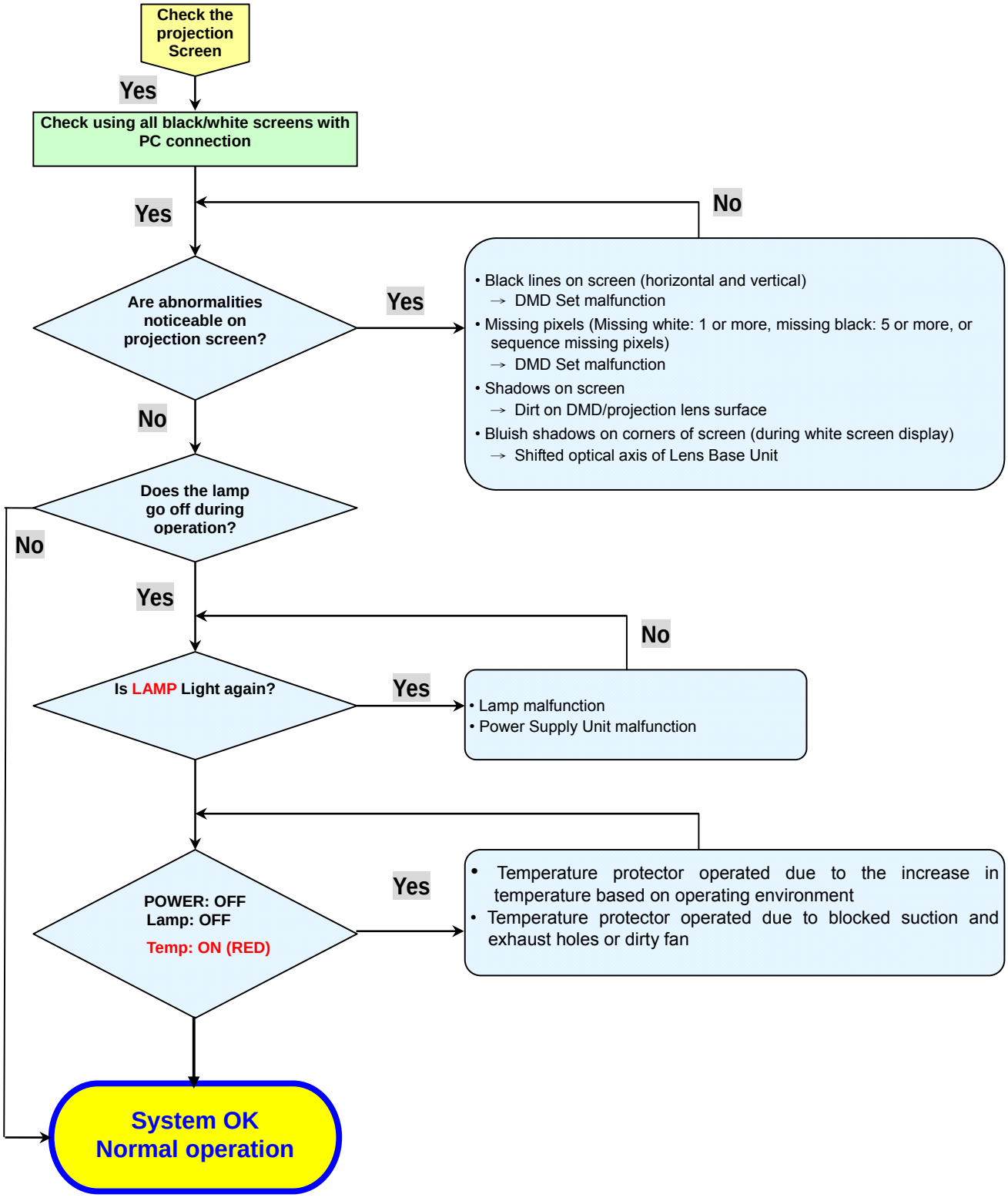


Image Display
Yes
No
Projector logo screen display
No
• CW Sensor Board Ass'y malfunction
• Main Board Ass'y malfunction
• DMD Set malfunction
Yes
Confirmation with none-signal state
No
Still dark after the lamp is on for more than 1min
Yes
• Lamp deterioration (malfunction/usage time)
• Power Supply Unit malfunction
(No change occurs even after lamp replacement.)
• DMD Set malfunction
(No change occurs even after lamp replacement.)
No
No
Menu display
No
• Remote controller set malfunction, Low battery, and outside operation rang
• Main Board Ass'y malfunction
• Connector (CN371)、(CN5 of MIS PWB) disconnected
• IR PWB Ass'y malfunction
Yes
Input each signal
No
Yes
Image display normally
No
• Check the pattern generator setting is wrong
• Main Board Ass'y malfunction
• DMD Set malfunction
• Setting on PC side(external output setting, resolution, etc.)
• Cable malfunction (disconnection and pins broken)
Yes
No
Speaker work normally
No
• Connector (CN300) disconnected
• Speaker Ass'y malfunction
• Audio Board Ass'y malfunction
• Main Board and Keypad Board Ass'y malfunction
Yes
Check the projection Screen


Check the projection Screen
Yes
Check using all black/white screens with PC connection
Yes
No
Are abnormalities noticeable on projection screen?
Yes
• Black lines on screen (horizontal and vertical)
→ DMD Set malfunction
• Missing pixels (Missing white: 1 or more, missing black: 5 or more, or sequence missing pixels)
→ DMD Set malfunction
• Shadows on screen
→ Dirt on DMD/projection lens surface
• Bluish shadows on corners of screen (during white screen display)
→ Shifted optical axis of Lens Base Unit
No
Does the lamp go off during operation?
No
Yes
No
Is LAMP Light again?
Yes
• Lamp malfunction
• Power Supply Unit malfunction
POWER: OFF
Lamp: OFF
Temp: ON (RED)
Yes
• Temperature protector operated due to the increase in temperature based on operating environment
• Temperature protector operated due to blocked suction and exhaust holes or dirty fan
System OK
Normal operation

Common problems and solutions

These guidelines provide tips to deal with problems you may encounter while using the projector. If the problem remains unsolved, contact your dealer for assistance.

Often after time spent troubleshooting, the problem is traced to something as simple as a loose connection.

Check the following before proceeding to the problem-specific solutions.

- *Use some other electrical device to confirm that the electrical outlet is working.*
- *Ensure the projector is turned on.*
- *Ensure all connections are securely attached.*
- *Ensure the attached device is turned on.*
- *Ensure a connected PC is not in suspending mode.*

Ensure a connected notebook computer is configured for an external display. (This is usually done by pressing an Fn-key combination on the notebook.)

Image Problems

Problem: No image appears on the screen

1. Verify the settings on your notebook or desktop PC.
2. Turn off all equipment and power up again in the correct order.

Problem: The image is blurred

1. Adjust the **Focus** on the projector.
2. Press the **Re-sync** button on the remote control or projector.
3. Ensure the projector-to-screen distance is within the 10-meter (33-feet) specified range.
4. Check that the projector lens is clean.

Problem: The image is wider at the top or bottom (trapezoid effect)

1. Position the projector so it is as perpendicular to the screen as possible.
2. Use the Keystone button on the remote control or projector to correct the problem.

Problem: The image is reversed

Check the **Projection** setting on the **Setup** menu of the OSD.

Problem: The image is streaked

1. Set the **Frequency** and **Phase** settings on the **Computer** menu of the OSD to the default settings.
2. To ensure the problem is not caused by a connected PC's video card, connect to another computer.

Problem: The image is flat with no contrast

Adjust the **Contrast** setting on the **Image** menu of the OSD.

Problem: The color of the projected image does not match the source image.

Adjust the **Color Temperature** and **Gamma** settings on the **Image** menu of the OSD.

Lamp Problems

Problem: There is no light from the projector

1. Check that the power cable is securely connected.
2. Ensure the power source is good by testing with another electrical device.
3. Restart the projector in the correct order and check that the Power LED is still green.
4. If you have replaced the lamp recently, try resetting the lamp connections.
5. Replace the lamp module.
6. Put the old lamp back in the projector and have the projector serviced.

Problem: The lamp goes off

1. Power surges can cause the lamp to turn off. Re-plug power cord. When the Ready LED is on, press the power button.
2. Replace the lamp module.
3. Put the old lamp back in the projector and have the projector serviced.

Remote Control Problems

Problem: The projector does not respond to the remote control

1. Direct the remote control towards remote sensor on the projector.
2. Ensure the path between remote and sensor is not obstructed.
3. Turn off any fluorescent lights in the room.
4. Check the battery polarity.
5. Replace the batteries.
6. Turn off other Infrared-enabled devices in the vicinity.
7. Have the remote control serviced.

Audio Problems

Problem: There is no sound

1. Adjust the volume on the remote control.
2. Adjust the volume of the audio source.
3. Check the audio cable connection.
4. Test the source audio output with other speakers.
5. Have the projector serviced.

Problem: The sound is distorted

1. Check the audio cable connection.
2. Test the source audio output with other speakers.

4. DISASSEMBLY AND ASSEMBLY

Removing the Lamp Cover and Lamp Module

DISASSEMBLY

Look the full set projector.

Look at the IO side.

Look at the keypad of top side.

Look at the keypad of top side.

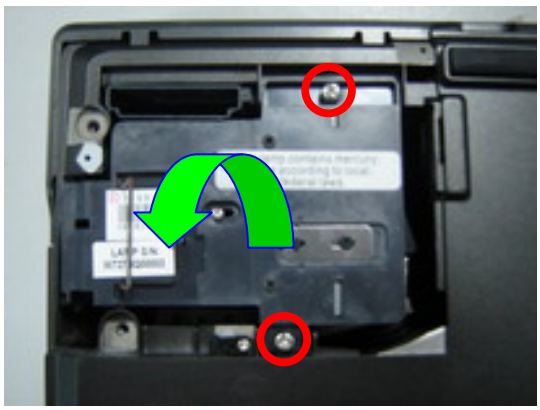
Loose these two screws.

Remove and take out the lamp cover.

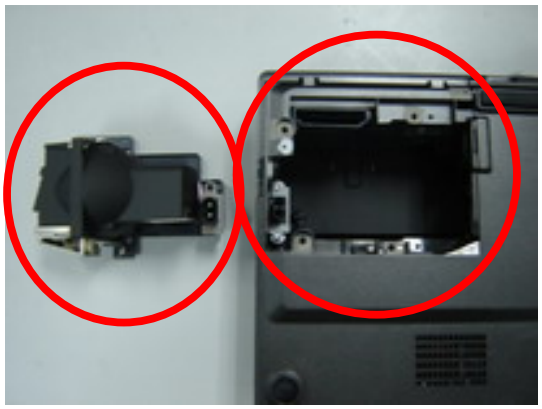
Removing the Lamp Cover and Lamp Module

DISASSEMBLY

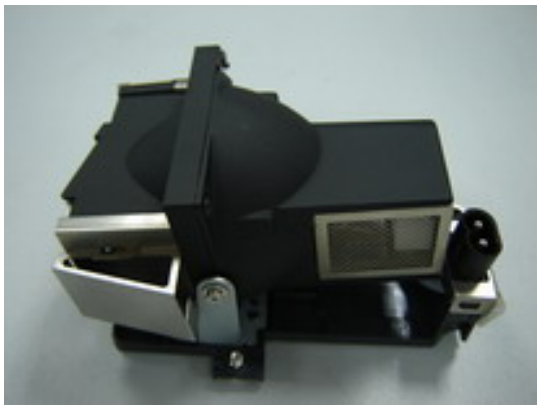
Look at the top side.



Loose these two screws and take out.



Remove the lamp modules (upward view).



Look the Lamp #1.

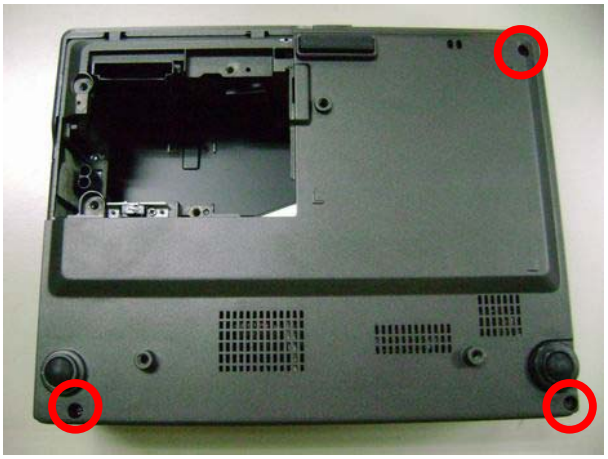
Look the Lamp #2.

Look the Lamp #3.

Removing the Lamp Module and Top Cover

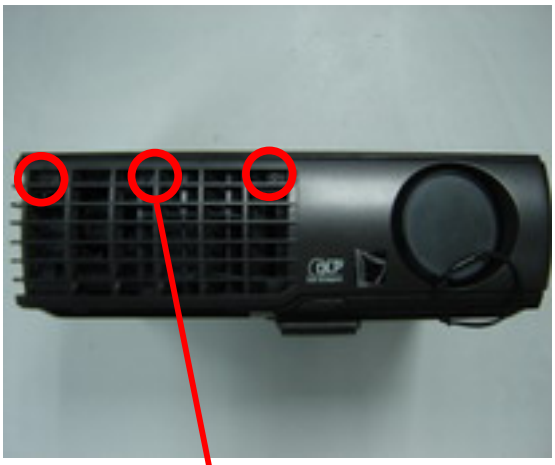
DISASSEMBLY

Look the Lamp #4.

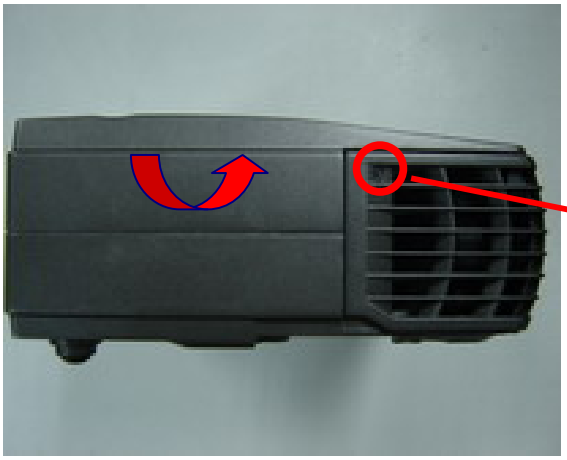


Remove the three screws.

Look the screws (S01).



Remove the two screws.

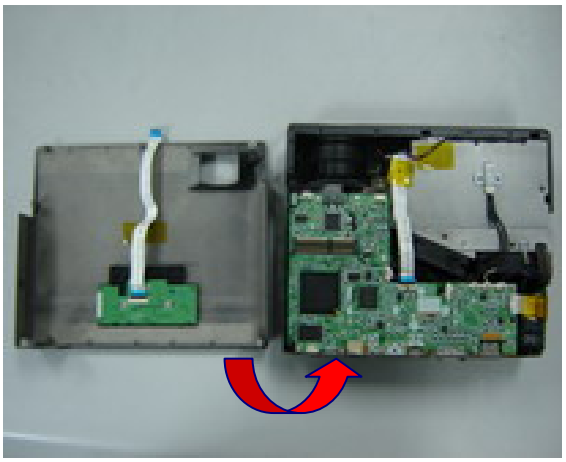


Remove the screw and top cover.

Look the screws(S02).

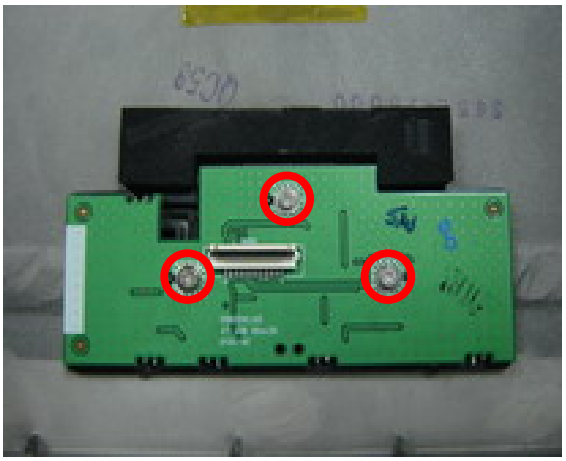
Removing the Top Cover and Keypad Board

DISASSEMBLY

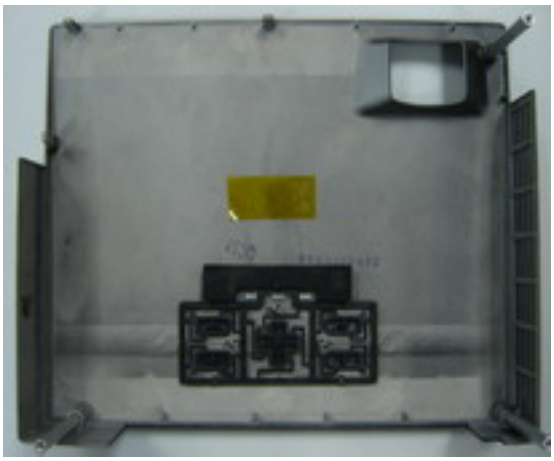


Look at the keypad and set side.

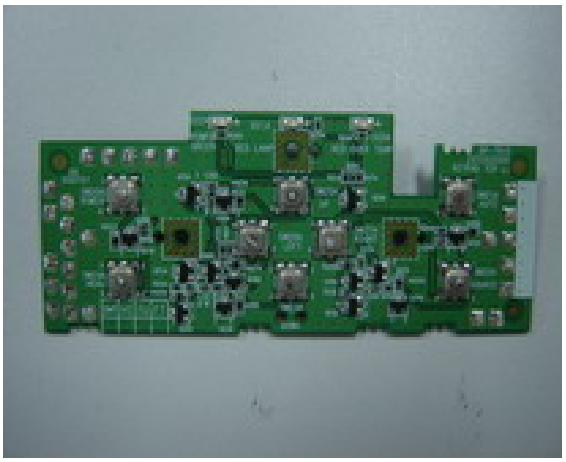
Look at the keypad side.



Remove the three screws and Keypad board take off.



After remove the Keypad board.

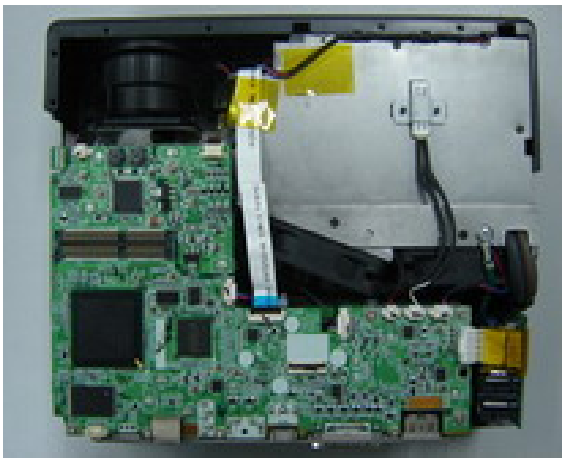


Keypad board review.

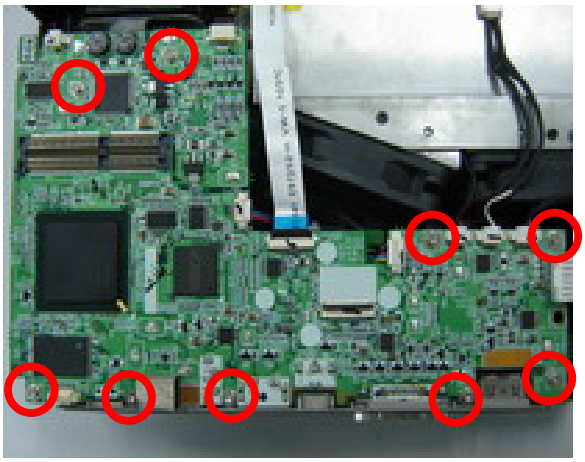
Look the screws(S03).

Removing the Main Board

DISASSEMBLY



Set reviews.

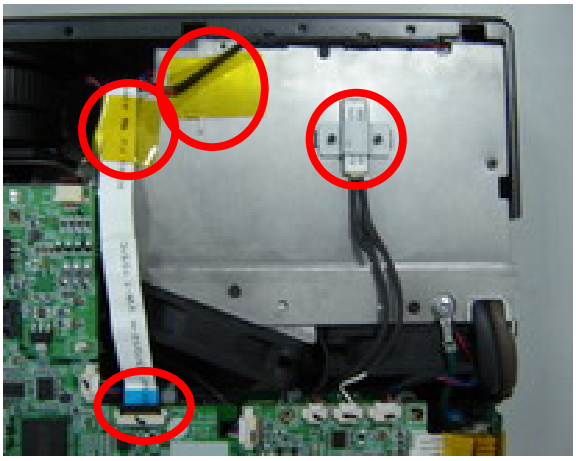


Remove the 9 piece screws.

Look the screws (S04).

Remove the two hexagonal screws.

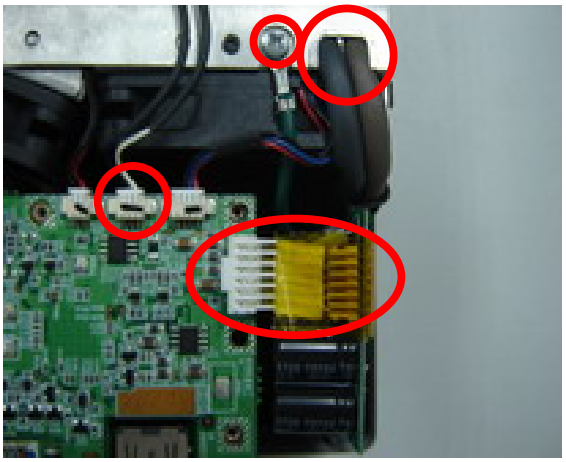
Look the screws (S05).



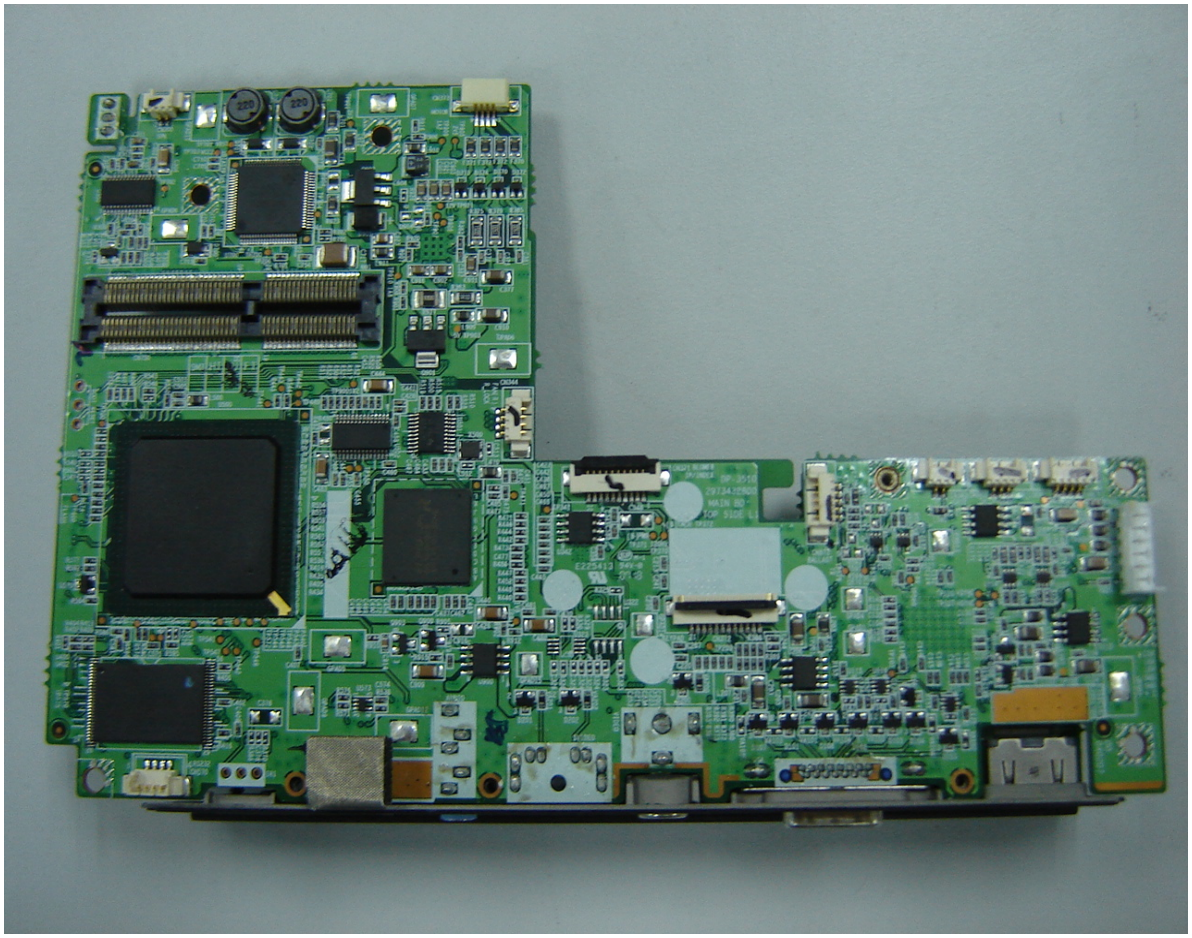
Careful this area and check this place when you assemble this plate.

Main Board Review

DISASSEMBLY



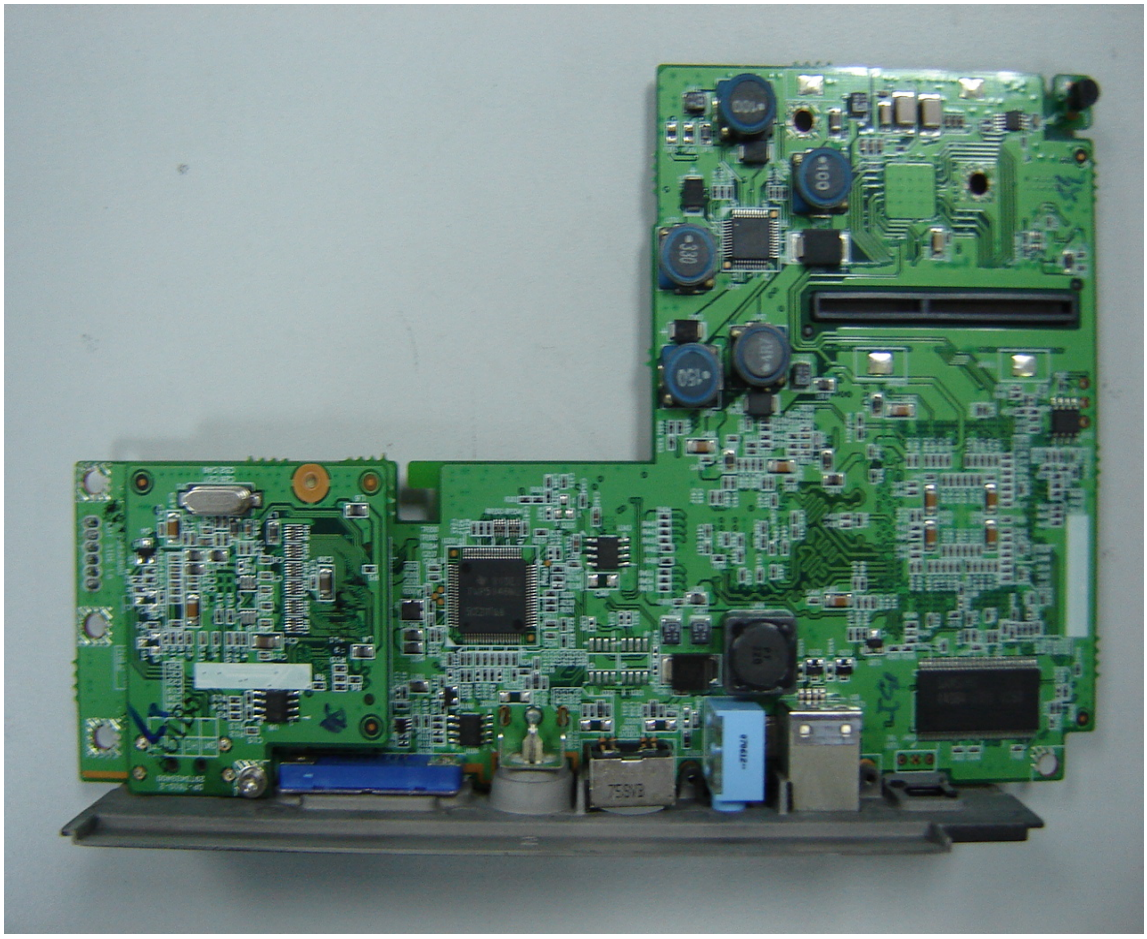
Careful this area and check this place when you assemble this plate.



Main Board Review #Top side

Main Board Review and Removing the HDMI Board

DISASSEMBLY



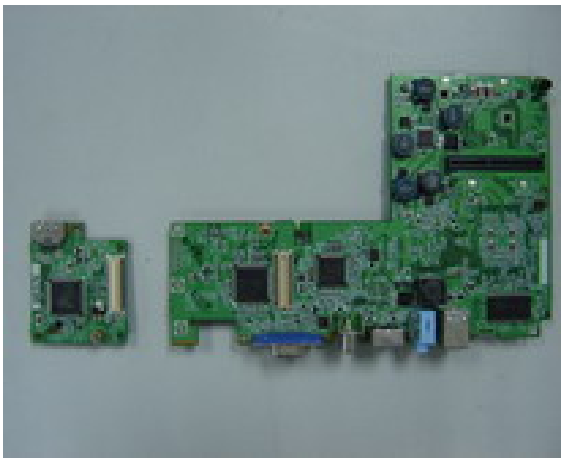
Main Board Review #Bottom side

Remove the screw and HDMI board take off.

Look the screw(S06).

Removing the HDMI Board & Power Board

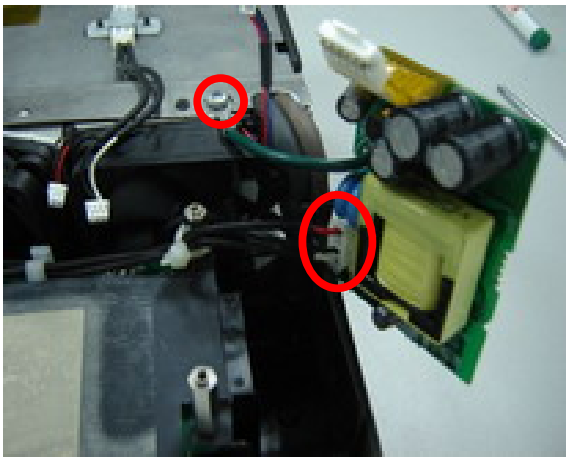
DISASSEMBLY



Review HDMI board and Main board.

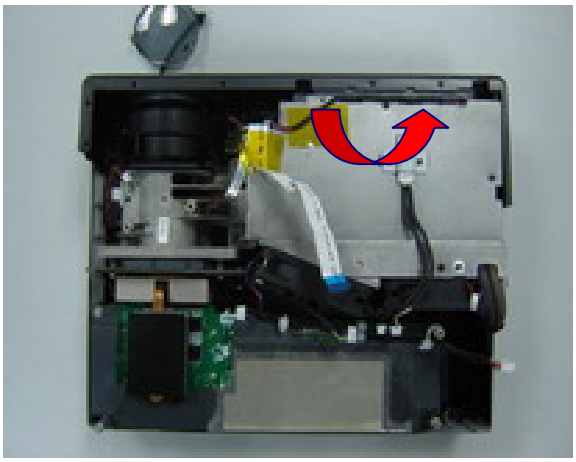
Review HDMI board.

Review the IO plant.



Remove the screw and connector lets the power board take off.

Review the power board and screw (S07).

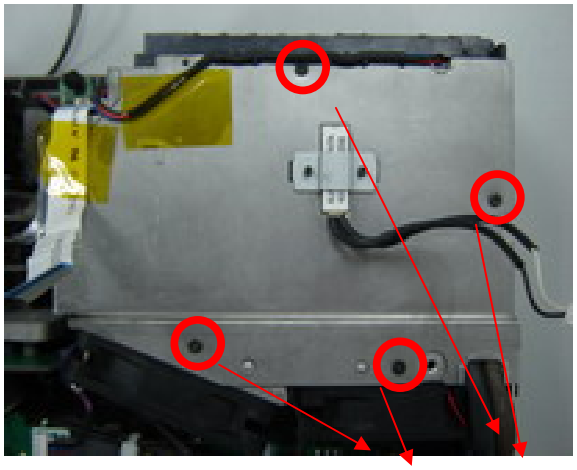


Remove the front case.

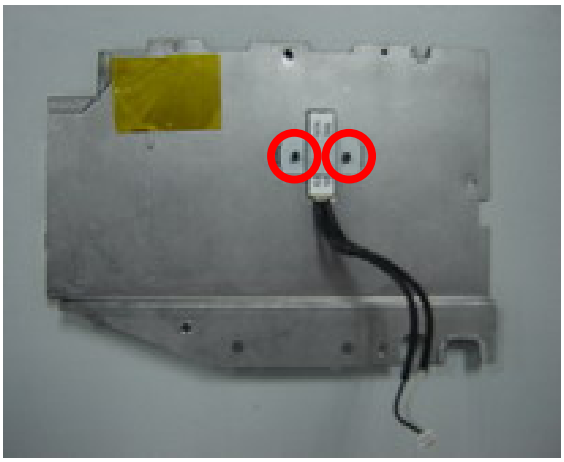
Removing the Front Case & the Top Cover Shield

DISASSEMBLY

Review the front case and set.

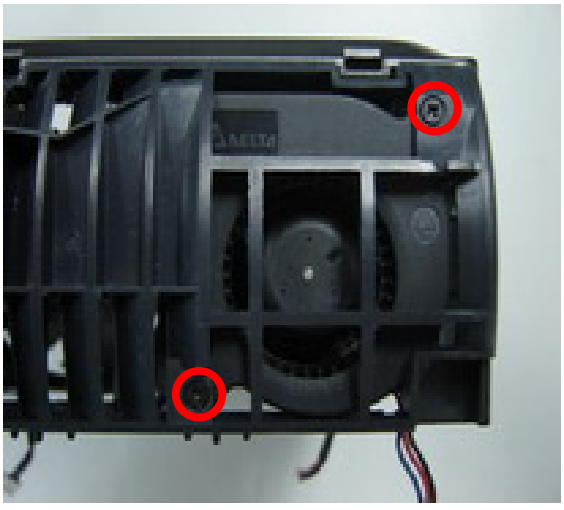


Remove the four screws(S08-2 & S08-1).

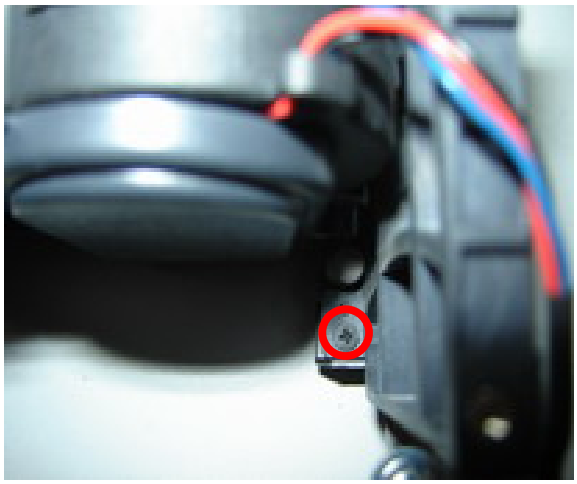


Review the Shield plant.

Review these four screws.



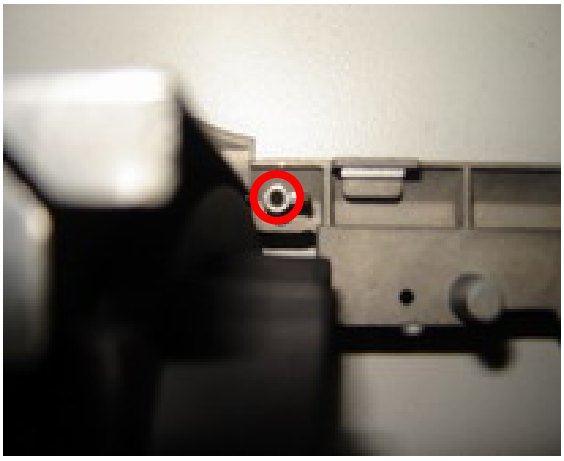
Remove the two screws and lets the fan take off (S09).



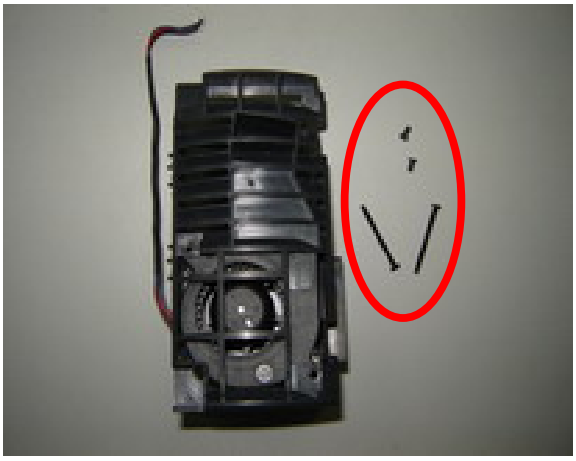
Remove the screw (S10).

Removing the Fans Module

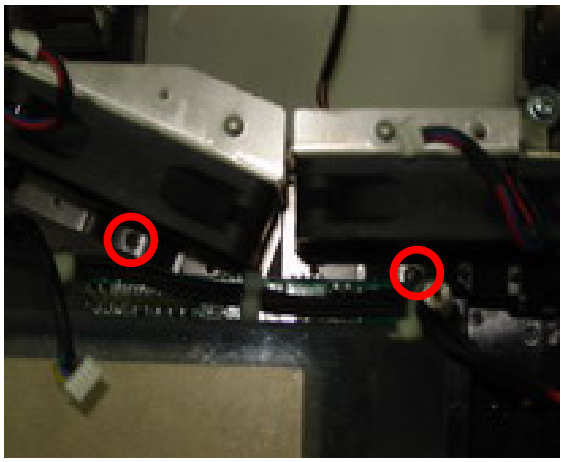
DISASSEMBLY



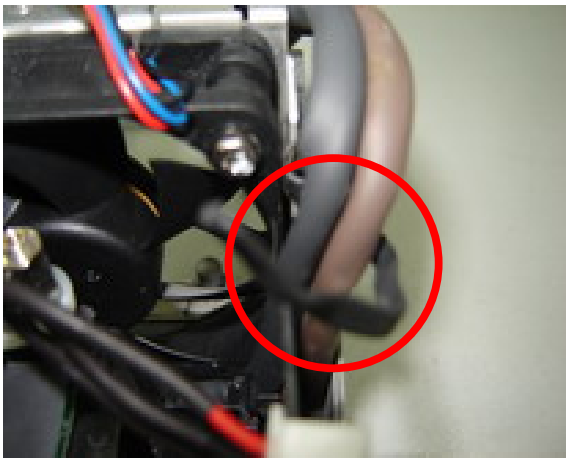
Remove the screw and fan module (S11).



Review the fan module and screws.

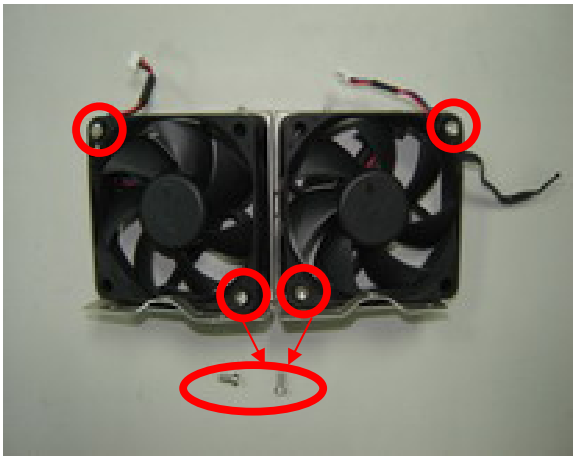


Remove the two screws.



Arrange the wires as picture when you assemble it.

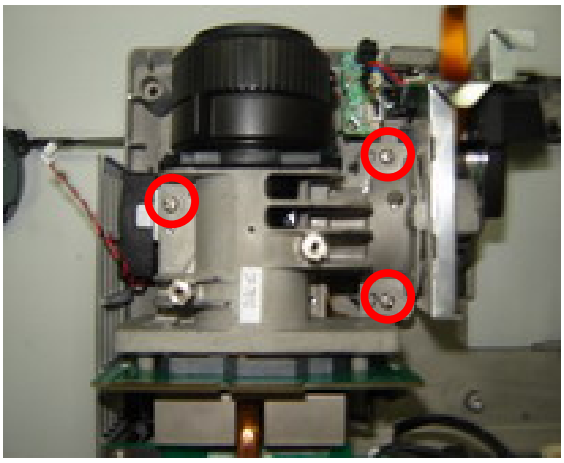
Take off the Fan module and review the two screws (S12).



Remove the four screws and replace the fans (S13).

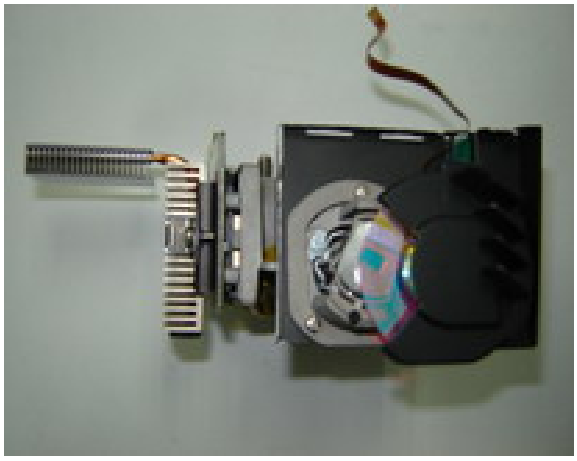
Removing the Optical Engine & Power Board

DISASSEMBLY

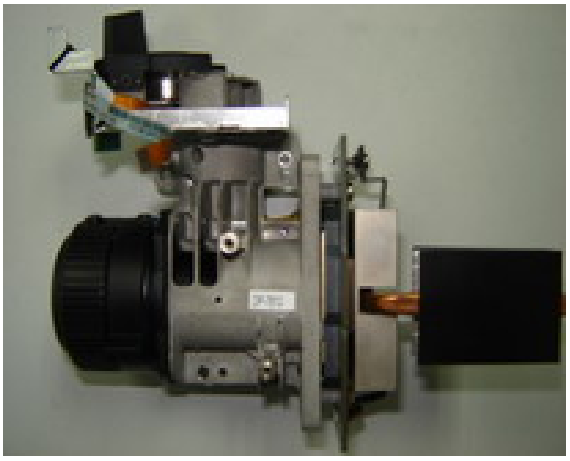


Remove the three screws and take off the optical module.

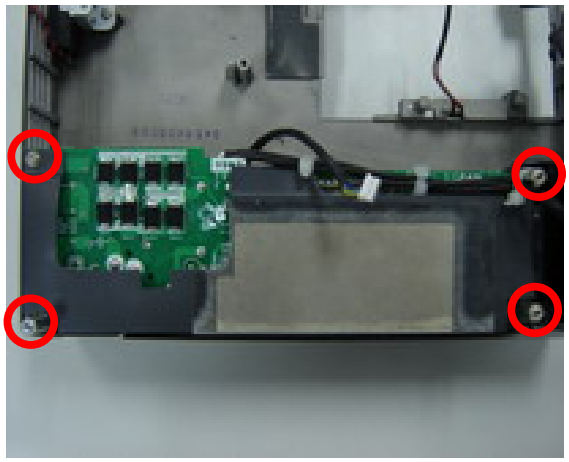
Review the three screws (S14).



Review the optical module #1.



Review the optical module #2.



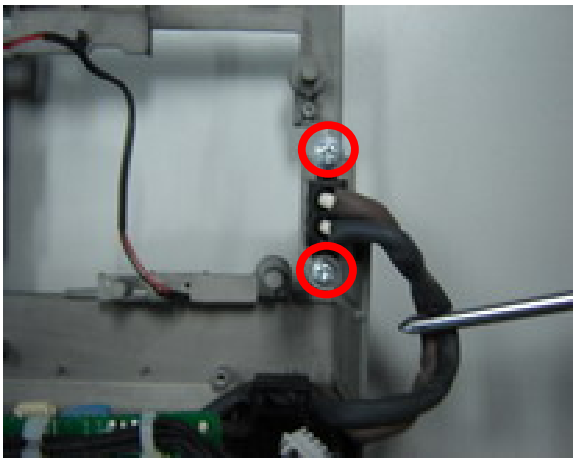
Remove the four screws.

Review the four screws (S15/16/17).

Removing the Power Board

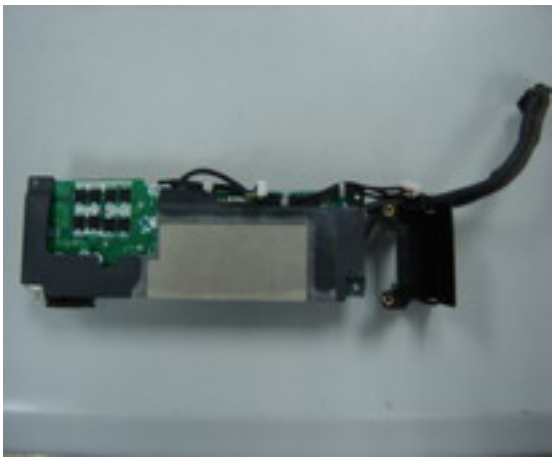
DISASSEMBLY

Remove the two screws (S18).



Remove the two screws (S19).

Review the four screws.



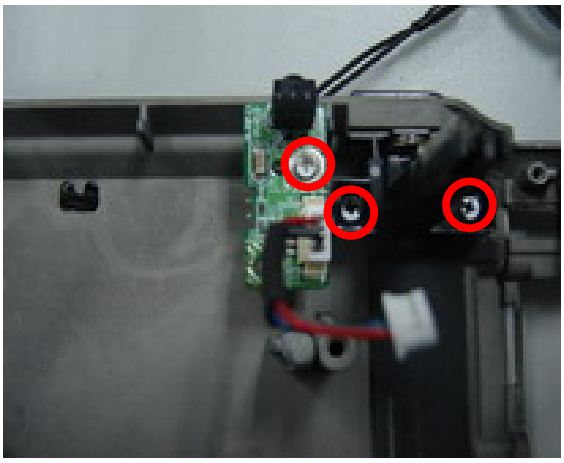
Review the power module #1.

Review the power module #2.

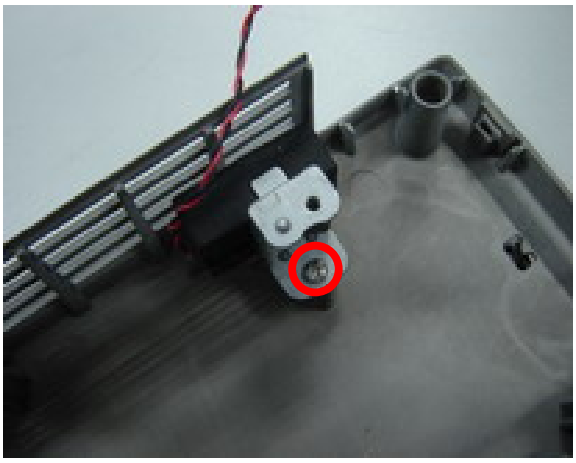
Review the button case.

Removing the IR Board / ADJ Foot / Speak Module / Inter-lock switch / Lens Cap

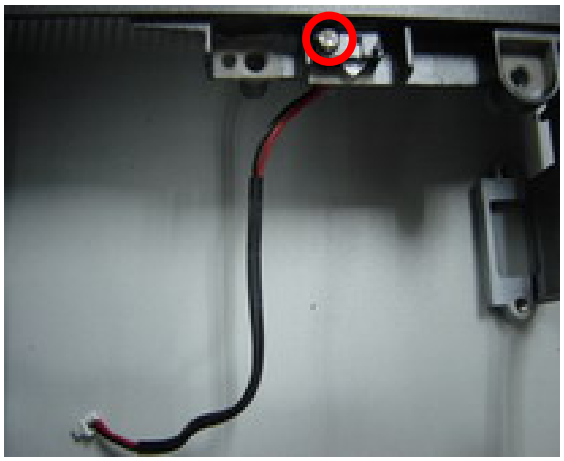
DISASSEMBLY



Remove the three screws and replace the IR board and ADJ foot (S20/21).



Remove the screw and replace the speak module (S22).



Remove the screw and replace the inter-lock switch board (S23).

Review the lens cap.

Appendix. Screw torque

item-S	Screw Type	P/N	Screw Driver Torque (kg-cm)
1	M2.5x0.45x6	3105142300	2.2~2.8
2	M2x0.4x4	31051473xx	1.7~2.3
3	M2x0.4x5.3	31052705xx	1.7~2.3
4	M2x0.4x5.3	31052705xx	1.7~2.3
5	HEX 4.7x4 F	34614317xx	2.7~3.3
6	M2x0.4x5.3	31052705xx	1.7~2.3
7	M2x0.4x4	31051473xx	1.7~2.3
8-1	M2x0.4x4	31051473xx	1.7~2.3
8-2	M2.5x0.45x6	3105142300	2.2~2.8
9	M2x0.4x25	31052703xx	1.7~2.3
10	M2x0.4x4	31051473xx	1.7~2.3
11	M2x0.4x4	31051473xx	1.7~2.3
12	M2.5x0.45x6	3105142300	2.2~2.8
13	M2.5x0.45x18.8	31053662xx	1.7~2.3
14	M3x0.5x5	31053108xx	4.3~5.5
15	M2x0.4x5.3	31052705xx	1.7~2.3
16	HEX 4.6x20	34614710xx	1.7~2.3
17	HEX 4.6x17	34614687xx	1.7~2.3
18	M2x0.4x4	31051473xx	1.7~2.3
19	M3x0.5x5	31001007xx	2.7~3.3
20	M2x0.4x5.3	31052705xx	1.7~2.3
21	M2x0.4x4	31051473xx	1.7~2.3
22	M2.5x0.45x6	31051423xx	2.2~2.8
23	M2x0.4x4	31051473xx	1.7~2.3

5. Flash Upgrade Flow

5-1.
Projector USB Drivers Installation Guide

Ver 6.0.0.4

The document is to describe a Windows application software "**Flash-Tool**" for projector firmware. Its main purpose is to provide a detailed procedure of upgrading the application software of a DLP projector. The system requirement and the installation procedure of "**Flash-Tool"** are also included in the document.

NOTE:
User must have administrative privileges on the target computer in order to install the driver. (The installation target directory must not be write-protected.)
User also required having the basic knowledge of Windows application installation.
Attention: This utility is for DLP™ DDP2000/2230 series projectors only.

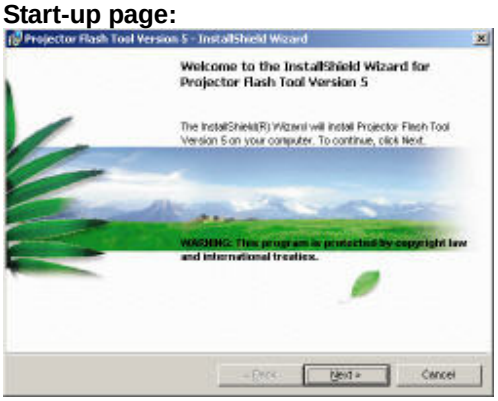
System Requirement

- IBM compatible PC.
- Windows XP-SP2 operating system.

Install Flash-Tool to PC

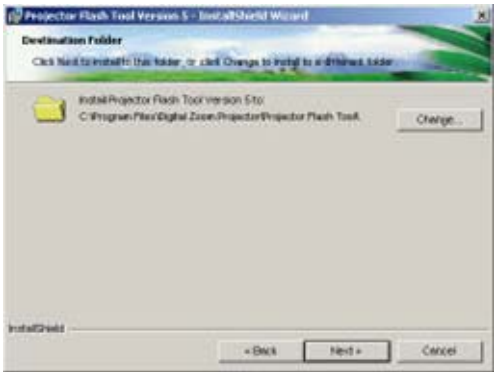
Run the "Digital Zoom Projector Flash Tool Vx.y.msi", that will automatically launch the USB drivers update. The following pictures are illustrating the process of the USB Driver installation.

Start-up page:


Projector Flash Tool Version 5 - InstallShield Wizard
Welcome to the InstallShield Wizard for Projector Flash Tool Version 5
The InstallShield(R) Wizard will install Projector Flash Tool Version 5 on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

Click on the "**Next**" button to continue
or
Click on the "**Cancel**" button to cancel the installation

Driver Destination:



- Click on the "**Change**" button to change the default directory for saving the driver file somewhere else.

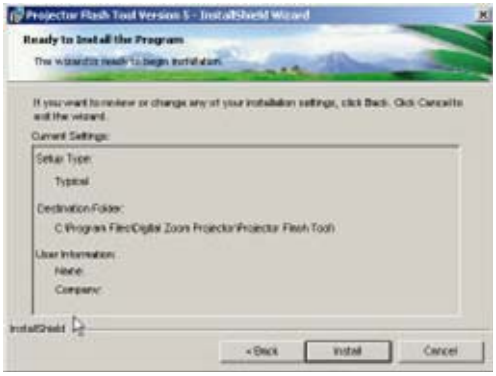
or

- Click on the "**Back**" button to return to the previous page

or

- Click on the "**Cancel**" button to cancel the installation

Ready to Install:



- Click on the "install" button to start the driver installation.

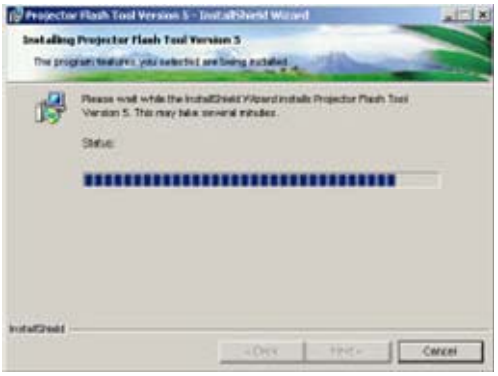
or

- Click on the "**Back**" button to return to the previous page

or

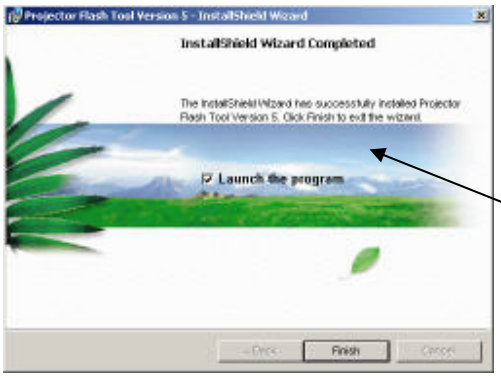
- Click on the "**Cancel**" button to cancel the installation

Installation in Progress:



- Please wait for the installation to complete.

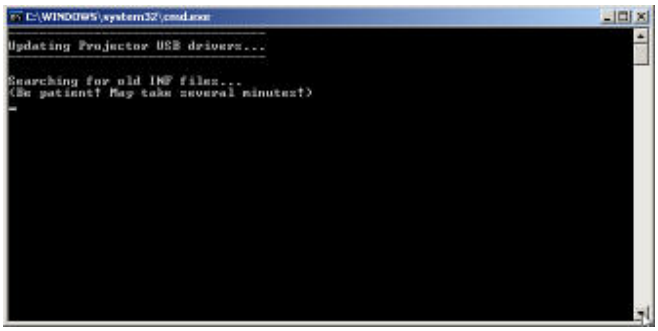
Installation Completed:


Projector Flash Tool Version 5 - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Projector Flash Tool Version 5. Click Finish to exit the wizard.
Launch the program
Finish

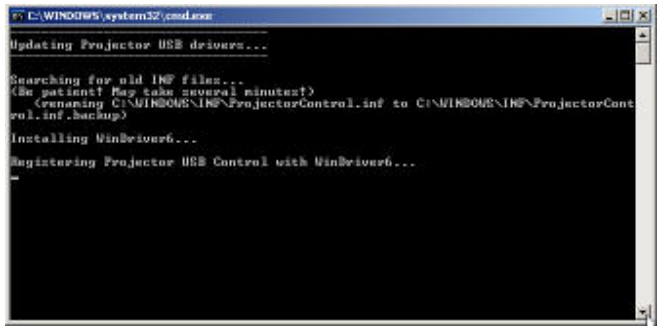
- Click on the "**Finish**" button with the "**Launch**" checkbox checked so that the Install Wizard will start the USB driver (INF update.

Launch the driver update

Note: The USB driver (INF) update may take a few minutes depending your computer's performance, and number of driver files. All dialogs will be automatically closed when the installation is completed.

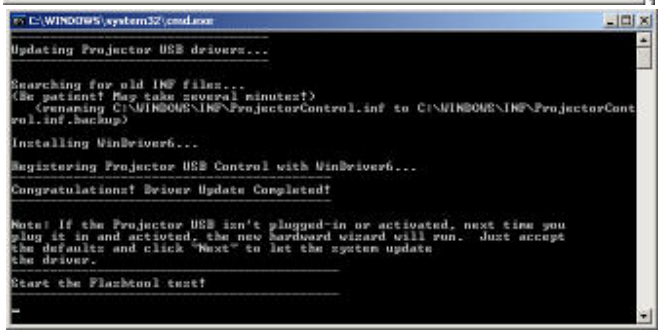

C:\WINDOWS\system32\cmd.exe
Updating Projector USB drivers...
Searching for old INF files...
(Be patient! May take several minutes!)

The Install Wizard is searching for the old driver files to be replaced with the new ones.

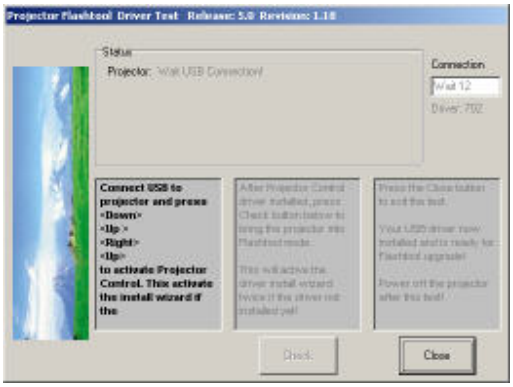


- Remove the USB cable between PC and projector if it is connected.

The WinDrive USB drivers will be installed and registered to the system.


C:\WINDOWS\system32\cmd.exe
Updating Projector USB drivers...
Searching for old INF files...
(Be patient! May take several minutes!)
(renaming C:\WINDOWS\INF\ProjectorControl.inf to C:\WINDOWS\INF\ProjectorCont
rol.inf.backup)
Installing WinDriver6...
Registering Projector USB Control with WinDriver6...
Congratulations! Driver Update Completed!
Note: If the Projector USB isn't plugged-in or activated, next time you
plug it in and activted, the new hardward wizard will run. Just accept
the defaults and click "Next" to let the system update
the driver.
Start the Flashtool test!

When finished, a test application will execute automatically with Windows hardware wizard for all necessary USB drivers.


Projector Flashtool Driver Test - Release: 5.0 Revision: 1.18
Status
Projector:
Connection
Connect USB to projector and press <Down> <Up> <Right> <Up> to activate Projector Control. This activate the install wizard if the
Check
Close

- **Connect the USB cable**

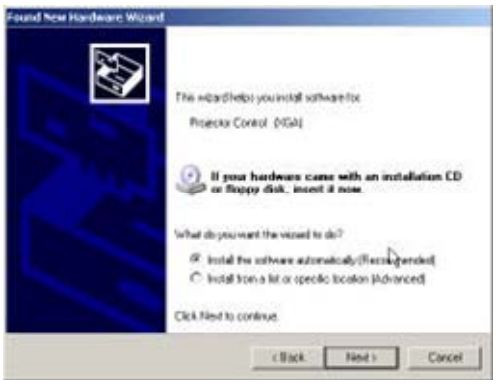
If the driver test application does not launch automatically, run the “Launch FlashToolBL.exe” from installed shortcut at
Program> Digital Zoom Projector> projector flashtool> Launch FlasToolBL.exe

- Make sure that the USB cable is firmly connected between projector and computer
- Connect the power cord to the projector, and move the power switch in its ON position (if available) so that projector is in the STAND-BY mode.
- Press **<Down>, <Up>, <Right>, <Up>** key in sequence using keypad buttons, or using the IR remote controller for those with limited keypads. The power and lamp LED shall blink and the Projector Control mode will be enabled.

The New Hardware Wizard launches for **the first time.** Windows detects a new USB device attached.

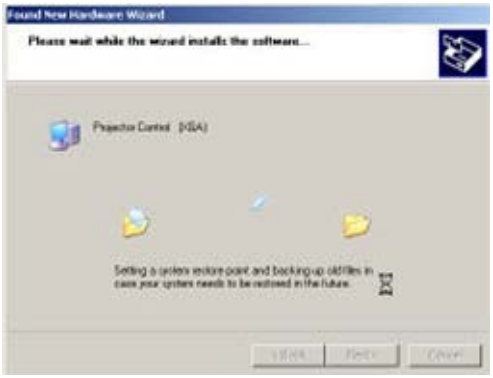
- Select “No, not this time”
- Click on the “**Next**” button to continue

(This dialog may change on different Windows version)

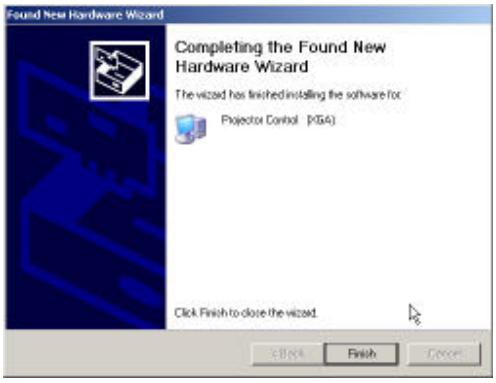


- Select “Install the software automatically”
- Click on the “**Next**” button to continue

* In case the wizard cannot find the driver (the ProjectorControl.inf), please select the other advanced option and specify the driver location manually. (Normally at C:\Program Files\Digital Zoom Projector\Projector Flash Tool)



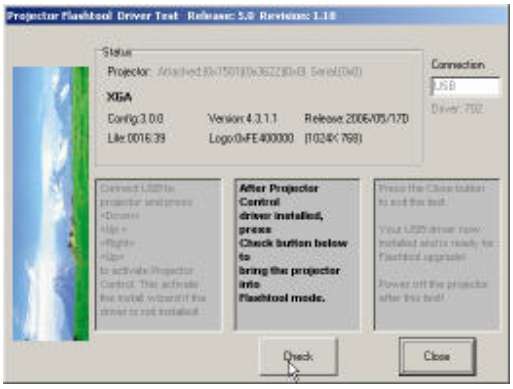
Windows updates the USB Projector Control driver when found



Windows completes the new hardware wizard.

- Press the "**Finish**" button to exit.

Note:
In case that you has USB enumeration problem (i.e., the USB port cannot recognize your projector), please clear all USB items in the windows registry, and re-install the Flash-Tool USB driver. See Appendix-A for further details.

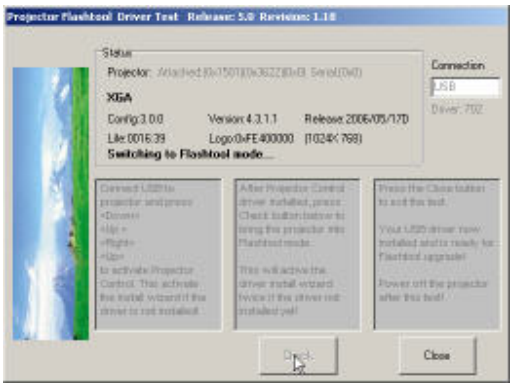


Once when the Projector Control USB driver is enumerated, the projector information is displayed in the status window.

- Click on the "**Check**" button to place the projector in the Flash-Tool mode.

The purpose of this function is to verify whether or not the project is successfully in the Flash-Tool mode.

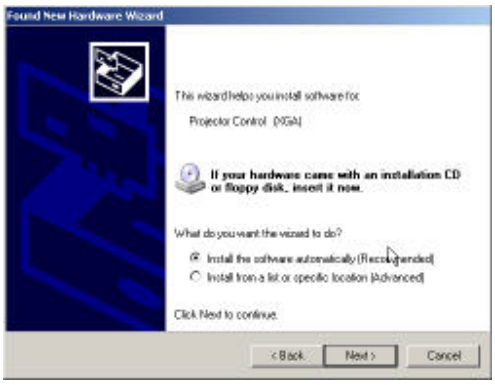
The projector is now in the Flash-Tool mode after the click.



The Windows New Hardware Wizard will launch again for the second USB Projector Control.

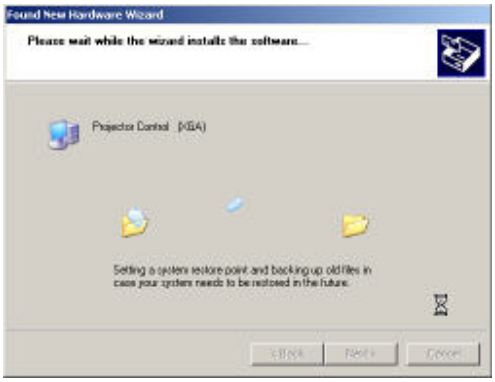
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

- Select “No, not this time”
- Click on the “Next” button to continue


Found New Hardware Wizard
This wizard helps you install software for:
Projector Control (XGA)
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

- Select “Install the software automatically”
- Click on the “**Next**” button to continue

* In case the wizard cannot find the driver (the ProjectorControl.inf), please select the other advanced option and specify the driver location manually. (Normally at C:\Program Files\Digital Zoom Projector\Projector Flash Tool)

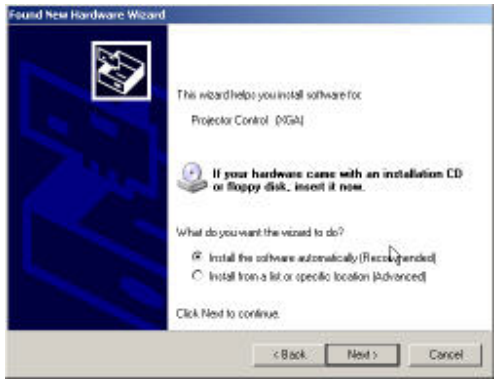

Found New Hardware Wizard
Please wait while the wizard installs the software...
Projector Control (XGA)
Setting a system restore point and backing up old files in case your system needs to be restored in the future.

Windows updates the USB Projector Control driver when found

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

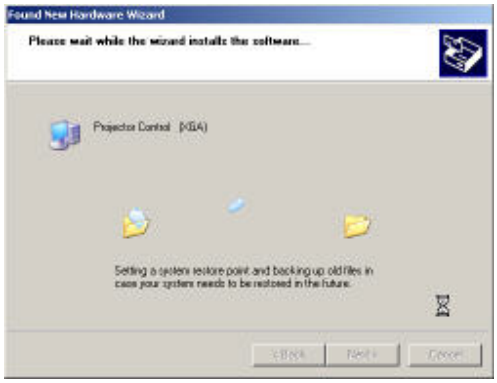
The New Hardware Wizard launches, and Windows detects a new USB device attached.

- Select “No, not this time”
- Click on the “**Next**” button to continue

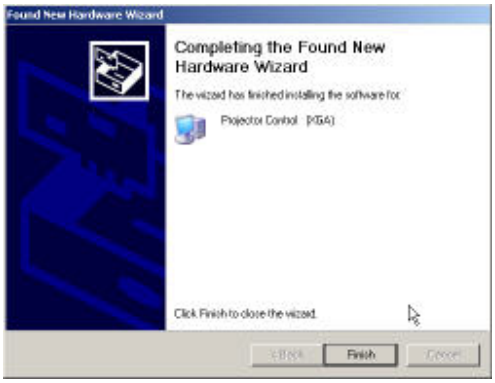

Found New Hardware Wizard
This wizard helps you install software for:
Projector Control (XGA)
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

- Select “Install the software automatically”
- Click on the “**Next**” button to continue

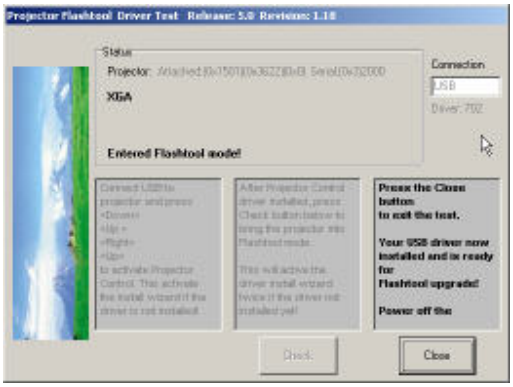
* In case the wizard cannot find the driver (the ProjectorControl.inf), please select the other advanced option and specify the driver location manually. (Normally at C:\Program Files\Digital Zoom Projector\Projector Flash Tool)


Found New Hardware Wizard
Please wait while the wizard installs the software...
Projector Control (XGA)
Setting a system restore point and backing up old files in case your system needs to be restored in the future.

Windows updates the USB Projector Control driver when found


Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Projector Control (X5A)
Click Finish to close the wizard.
Finish

Windows completes the new hardware wizard.
Press the "**Finish**" button to exit



Congratulations!

- Power off the projector now

Your driver has been checked and works for Flash-Tool.

Appendix-A

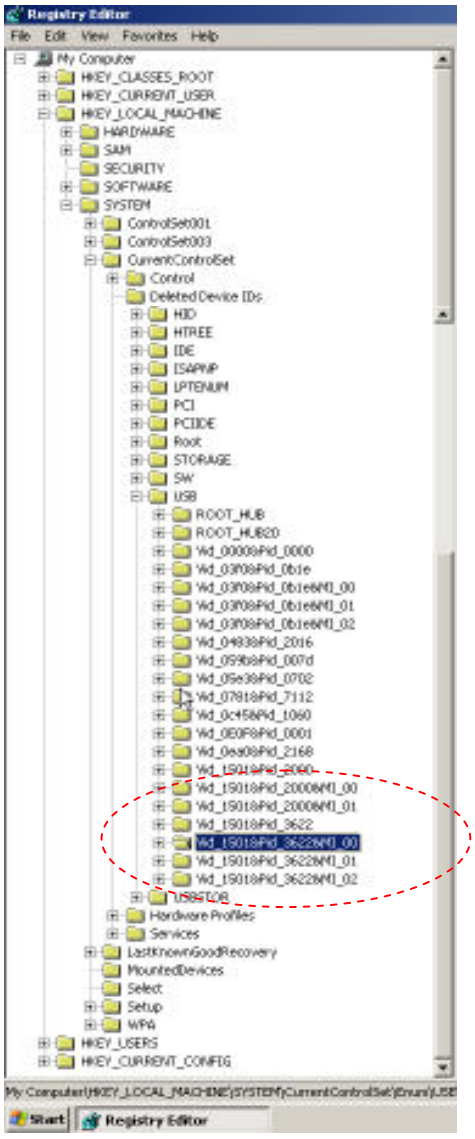
How to clear the USB enumeration registry?

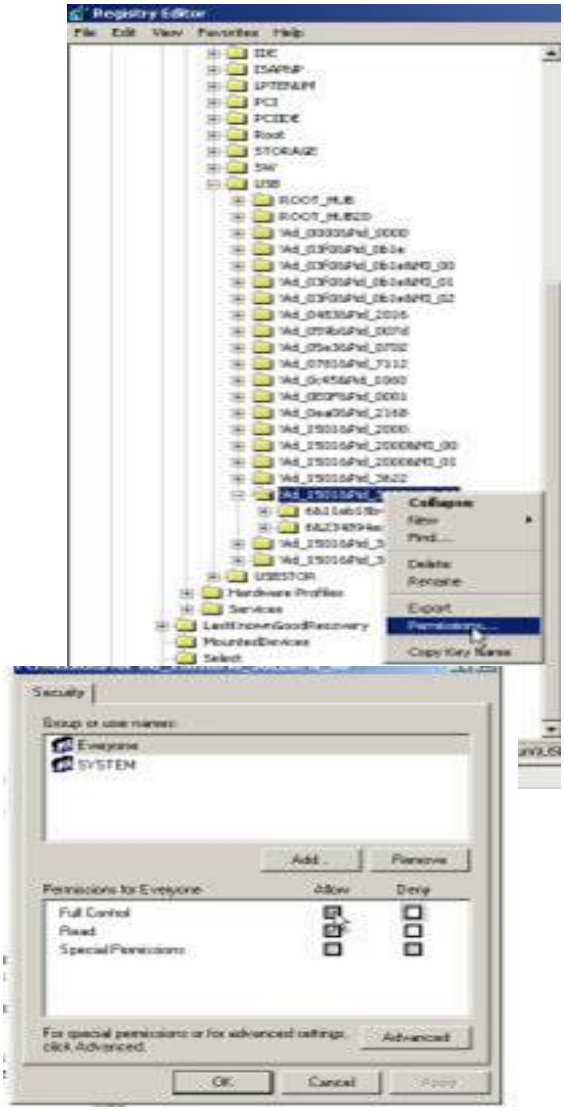
Run “regedit” and select the following items

HKEY_LOCAL_MACHINE->SYSTEM->CurrentControlSet->Enum->USB->

The E400/AV/DP2601 **VID_1501&Pid_2601xxx**
The AV/DP2618 series **VID_1501&Pid_2618xxx**
The AV/DP3618 series **VID_1501&Pid_3618xxx**
The DP3602 series **VID_1501&Pid_3602xxx**
The DP3616 series **VID_1501&Pid_3616xxx**
The DP3622 series **VID_1501&Pid_3622xxx**
The PR301x series **VID_1501&Pid_2617xxx**
The PR302x series **VID_1501&Pid_3617xxx**
The PR50xx series **VID_1501&Pid_3622xxx**
The EP77x series **VID_1501&Pid_3622xxx**
The DDP2230 series **VID_1501&Pid_2230xxx**
…

Press <Delete> and remove these registries. (You need the read/write privilege of the Windows registry to delete it. Select the item and click right mouse will lead you to the Permissions dialog for applying the security options)

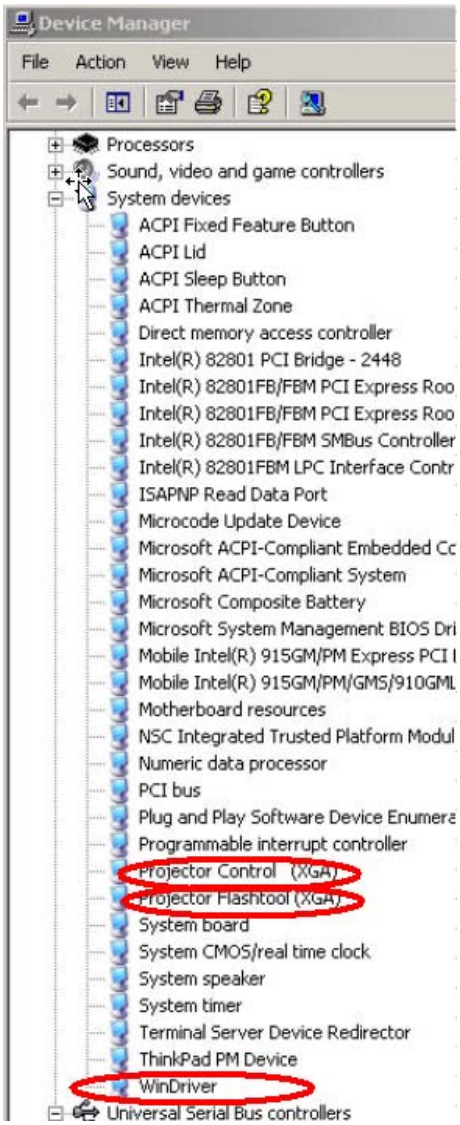

Registry Editor
File Edit View Favorites Help
My Computer
HKEY_CLASSES_ROOT
HKEY_CURRENT_USER
HKEY_LOCAL_MACHINE
HARDWARE
SAM
SECURITY
SOFTWARE
SYSTEM
ControlSet001
ControlSet003
CurrentControlSet
Control
Enum
USB
ROOT_HUB
ROOT_HUB20
Hardware Profiles
Services
LastKnownGoodRecovery
MountedDevices
Select
Setup
WPA
HKEY_USERS
HKEY_CURRENT_CONFIG
Start
Registry Editor


Registry Editor
Export
Permissions...
Security
Everyone
SYSTEM
Add...
Remove
Permissions for Everyone
Allow
Deny
Full Control
Read
Special Permissions
Advanced
OK
Cancel

Appendix-B

Projector USB status on Windows Device Manager

The USB HID device will be installed automatically via Windows' USB hot-plug mechanism.



The Projector Control will be dynamically installed after entering the maintenance mode (Press <down>, <up>, <right>, <up> key in sequence); The Projector Flashtool will be dynamically installed when starting the flash upgrading by Flashtool or FlashtoolBL utility. The Windriver is the root driver for both Projector Control and Flashtool.

5-2.

DLP Projector Flash-Tool (firmware) User Guide

Ver 6.0.0.4

The document is to describe a Windows application software "**Flash-Tool**" for projector firmware. Its main purpose is to provide a detailed procedure of upgrading the application software of a DLP projector. The system requirement and the installation procedure of "**Flash-Tool"** are also included in the document.

NOTE:
User must have administrative privileges on the target computer in order to install the driver. (The installation target directory must not be write-protected.)
User also required having the basic knowledge of Windows application installation.
Attention: This utility is for DLP™ DDP2000/2230 series projectors only.

System Requirement of Flash Tool

- IBM compatible PC.
- Windows XP SP2 operating system (English).
- Projector with Flash-Tool USB driver installed

Installation of Flash-Tool

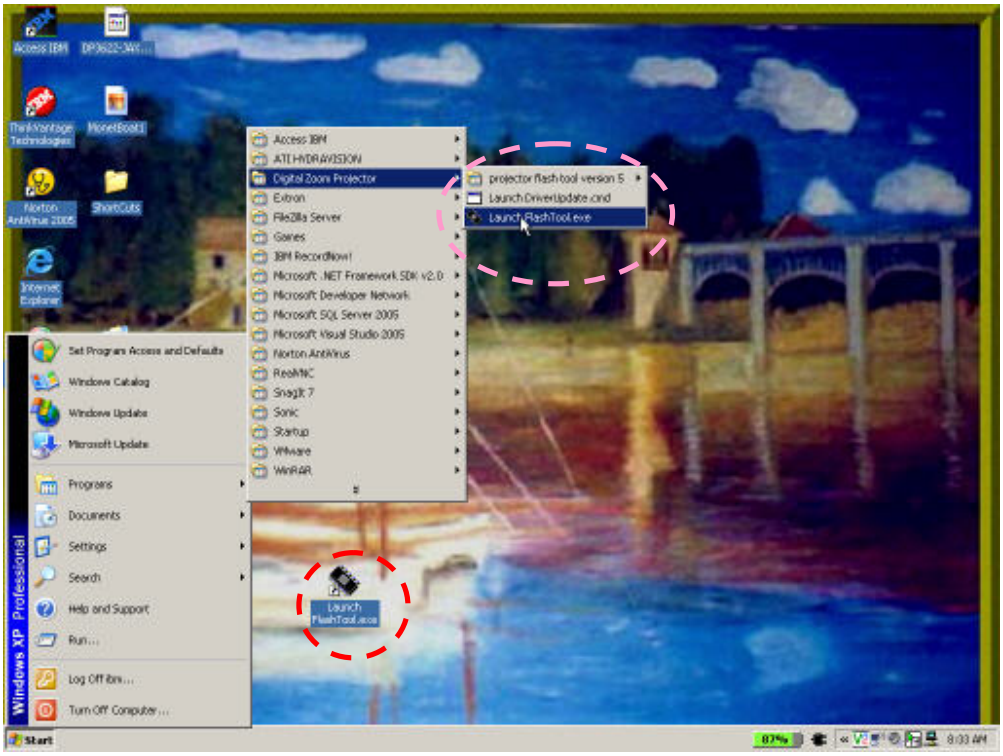
- Execute the file of "Digital Zoom Projector Flash Tool Vx.y.msi".

Note: If your projector USB driver is not installed yet, please refer to the USB driver installation guide for further details.

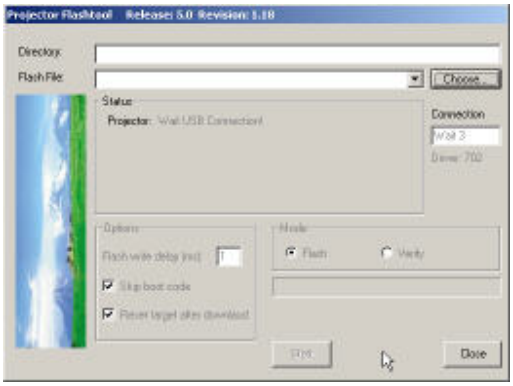
Start with Flash-Tool

The section is to illustrate the procedure to upgrade the application software of a DLP projector.

Step 1: Launch the “FlashTool.exe” from installed shortcut at **Program > Digital Zoom Projector> Launch FlasTool.exe** or click on the “Launch FlashTool.exe” shortcut icon on the desktop.



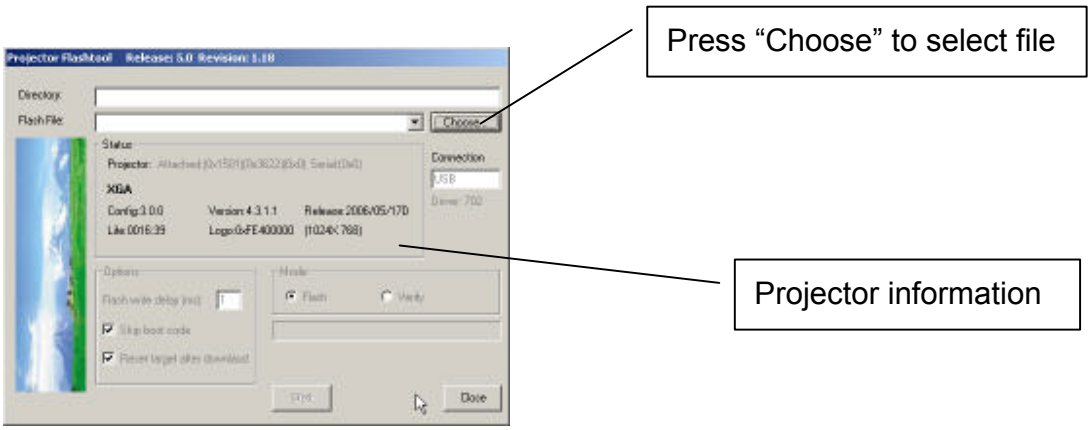
Step 1-1: While executed, a Flash-Tool window shall appear as the following picture.



Step 2: Make sure that the USB cable is firmly connected between projector and computer

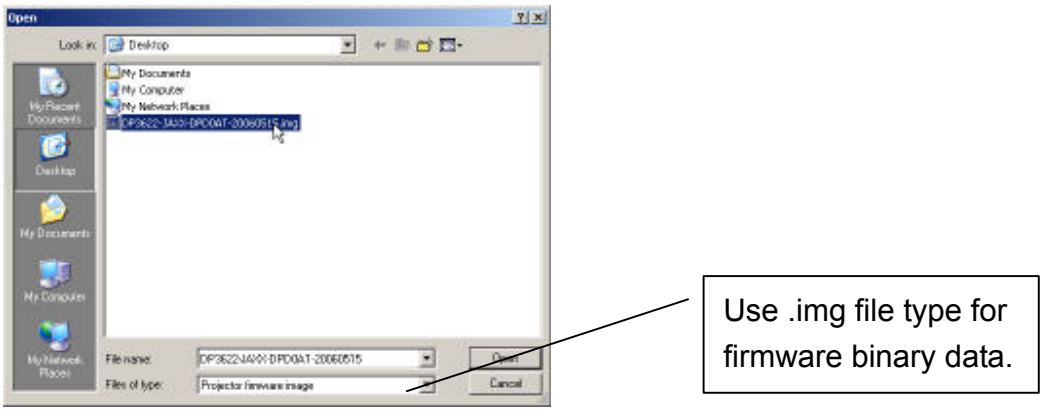
Step 3: Make sure the USB cable is firmly attached between projector and computer. Press holds the <Left> keys and connects the power cord to the projector at same time, The Power LED will flashing RED one time and please make sure the system is not under 1W stay.

Step 4: Press <Down>, <Up>, <Right>, <Up> keys in sequence using keypad buttons, or using the IR remote controller for those with limited keypads.
The Power LED will flashing RED one time and the Flash-Tool mode will be enabled.

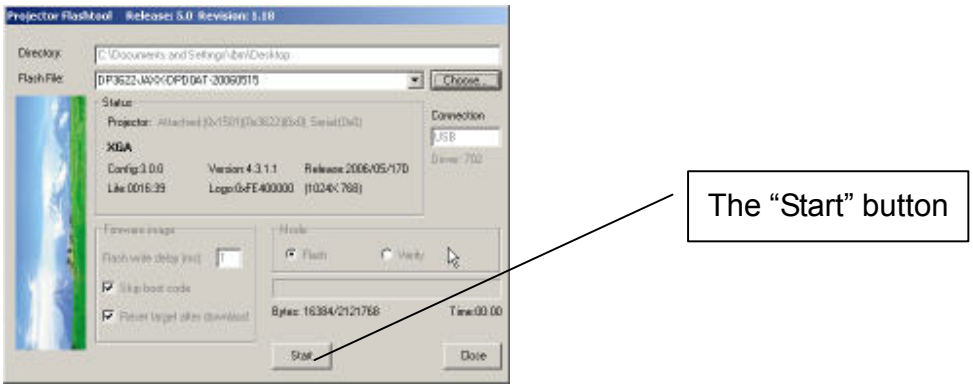


Note:
The Windows hardware wizard will pop up if the USB device driver is not installed. Simply select the recommended options, and let Windows Wizard does the trick.

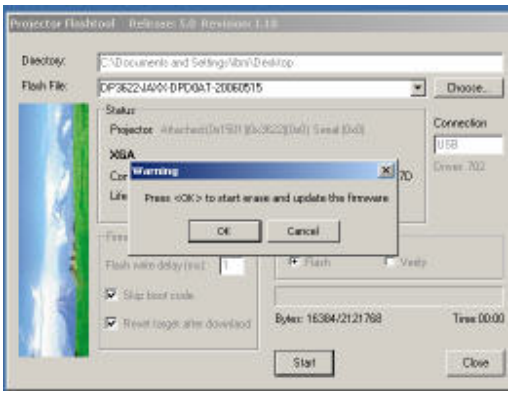
Step 5: Press the “Choose” button to locate the new firmware which can be downloaded from website (for example: DP3622-JAXX-DPD0A.img). Select the desired .img file by either double clicking the file, or pressing the “Open” button



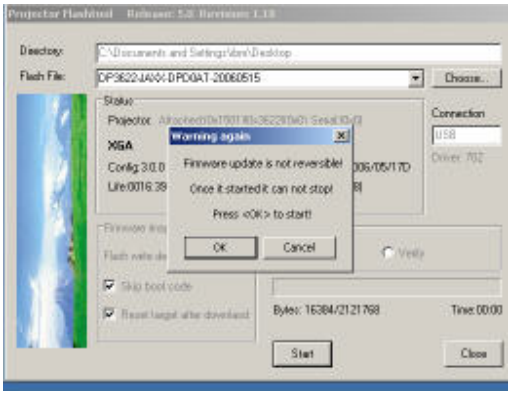
Note: The Flash-Tool will validate the signature of the binary image file for upgrading. The “Start” button will not enable if the binary image is not a valid projector firmware.



Step 6: Press the “Start” button to update the flash with the chosen firmware. A warning message box will appear for confirmation. Press <OK> to continue.



Step 7: When the last warning message box appears, this is the last chance to cancel the update. Press “OK” button to start the firmware update.

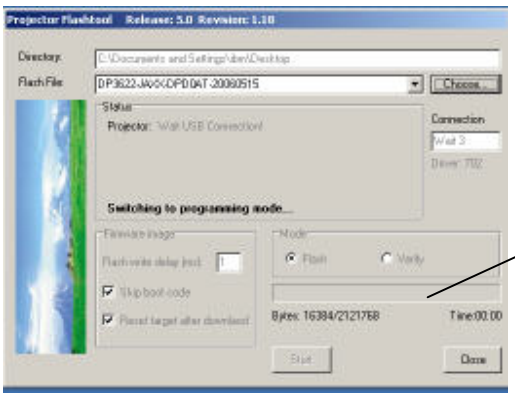


Caution:

DO NOT install any USB driver when erasing or upgrading process started.

Note: According to the Flash technology, the old firmware will be erased first. Therefore,

Flash-Tool will automatically erase the old firmware before upgrading.

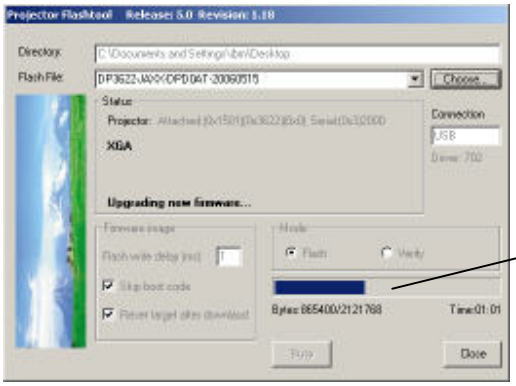


Erasing status.

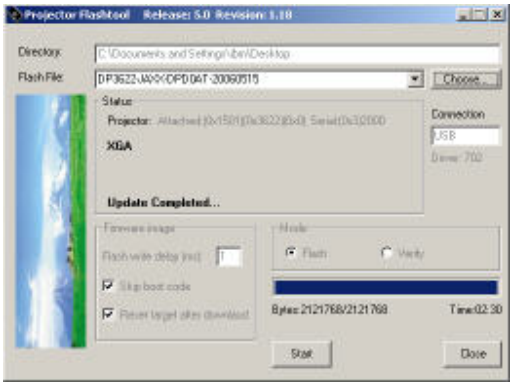
Caution:

DO NOT install any USB driver when erasing or upgrading process started.

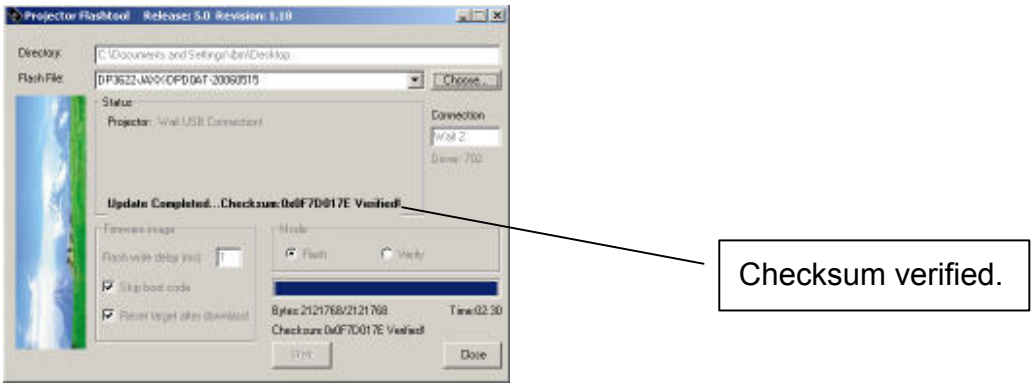
Note: After old firmware is erased, the new firmware upgrading process will start.



Upgrading new firmware.



Note: After the new firmware is upgraded, the Flash-Tool will perform the final validation. The dialog shows the checksum with a verification message!



Step 8: When the validation is completed, turn off the projector. Next time when the projector is on, it will execute the new firmware.

5-3. DLP Projector Flash-Tool (splash logo) User Guide

The document is to describe the Windows application software "**Flash-Tool**" for projector firmware.

Its main purpose is to provide a detailed procedure of upgrading the application software of a DLP projector.

The system requirement and the installation procedure of "**Flash-Tool"** are also included in the document.

Note:
The user must have administrative privileges on the target computer in order to install your driver.
The installation target directory must not write protected.
User also required having the basic knowledge of Windows application installation.
Attention: This utility is for DLP™ DDP2000/2230/243X series projector only.

System Requirement of Flash Tool

1. IBM compatible PC.
2. Windows XP operating system (English).
3. Projector Flash-tool USB driver installed.

New features of this release

The latest TI DLP ASIC DDP243X are supported, with EON 4M/8M and Macronix 4M flash ROM.

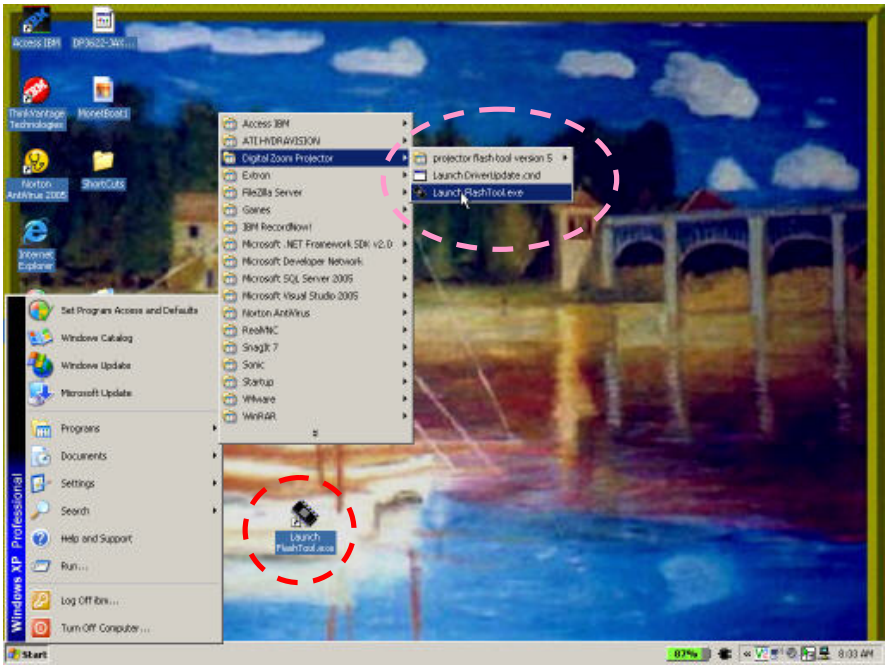
Install Flash-Tool to PC

Execute the file of "**Digital Zoom Projector Flash Tool Vx.y.msi**".

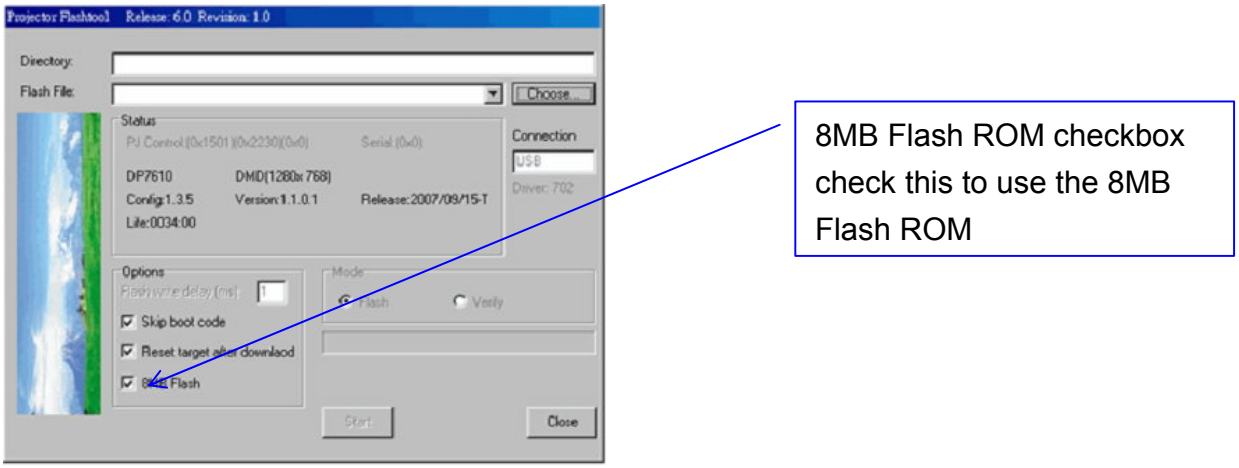
Note: If your projector USB driver is not installed yet, please refer to the USB driver installation guide for further details.

Flash-Tool User's Guide (Upgrading Projector Logo)

Step 1: Launch the "FlashTool.exe" from installed short-cut at **Program > Digital Zoom Projector> Launch FlasTool.exe** or click on the "Launch FlashTool.exe" shortcut icon on the desktop.



Step 2: While executed, a Flash-Tool window shall appear as the following picture.



Step 3:

The System will be not under <1W condition before you programming flash updated.

Projector is in STAND BY mode.

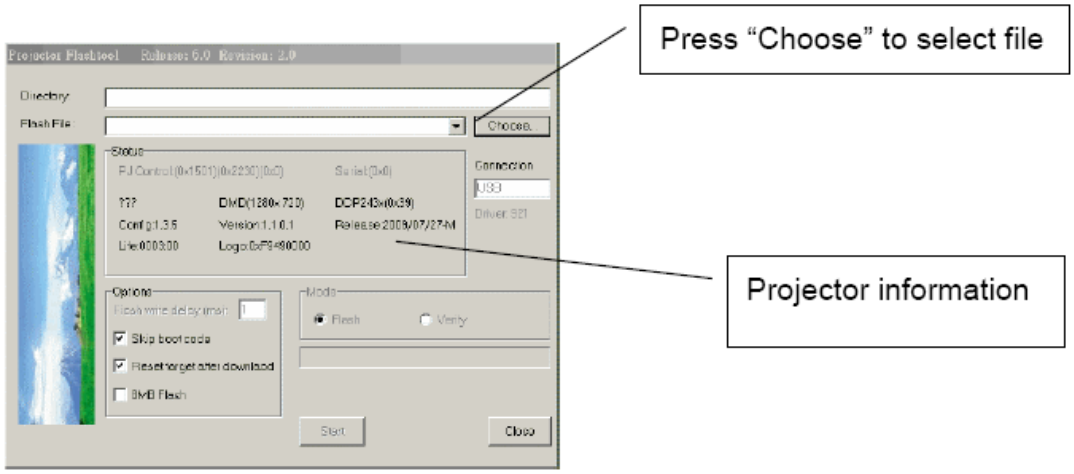
Make sure the USB cable is firmly attached between projector and computer.

Press holds the <Left> keys and connects the power cord to the projector at same time,

The Power LED will flashing RED one time and please make sure the system is not under <1W stay.

Press <Down>, <Up>, <Right>, <Up> keys in sequence using keypad buttons, or using the IR remote controller for those with limited keypads.

The Power LED will flashing RED one time and the Flash-Tool mode will be enabled.

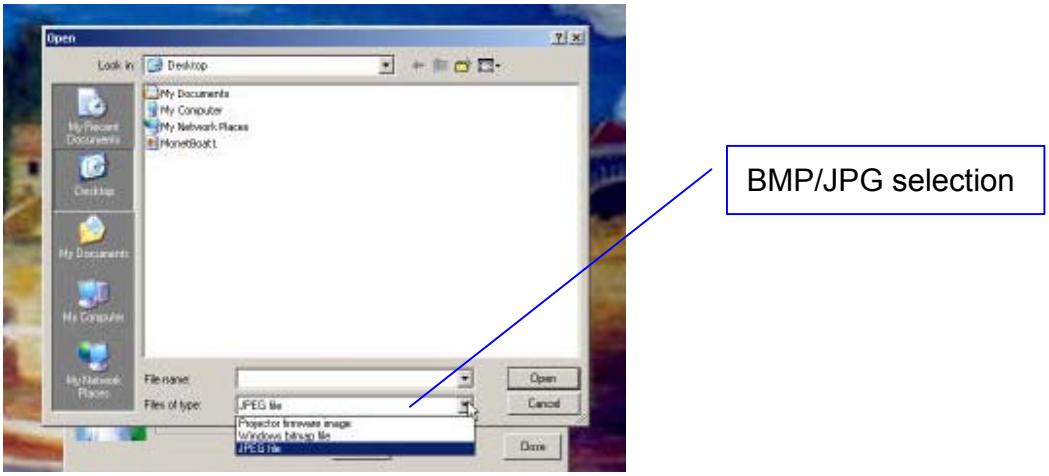


Note:

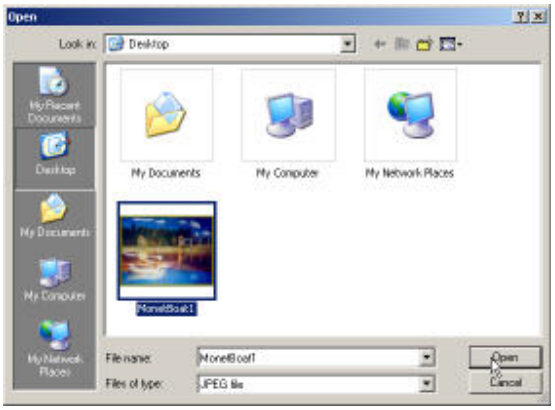
The Windows hardware wizard will pop up if the USB device driver is not installed.

Simply select the recommended options, and let Windows Wizard does the trick.

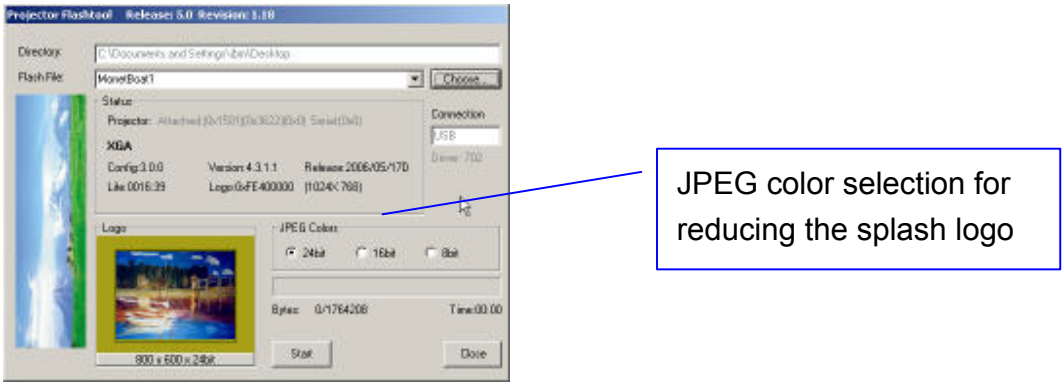
Select the image type in either BMP or JPG in the “File of type” option.



Step 5: Double click the desire logo file or press the “open” button to load the file.

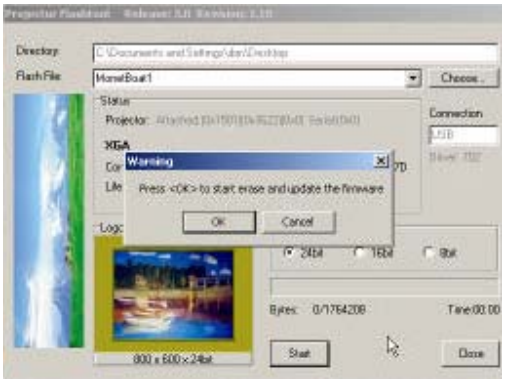


Step 6: The Flash-Tool will validate the size of the logo file, which will be converted to RLE format and stored to the projector’s flash memory.
The compressed RLE size cannot exceed the flash memory limitation; otherwise, try to reduce the colors by selecting the JPEG colors option in the tool. (For JPEG files only)



JPEG color selection for reducing the splash logo

Step 7: Press the “Start” button to update the flash with the chosen firmware.
A warning message box will appear for confirmation. Press <OK> to continue.

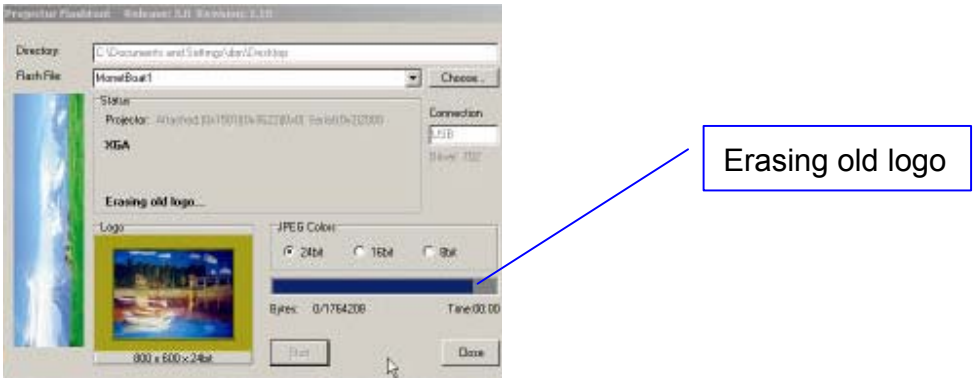


Step 8: When the last warning message box appears, this is the last chance to stop the update.

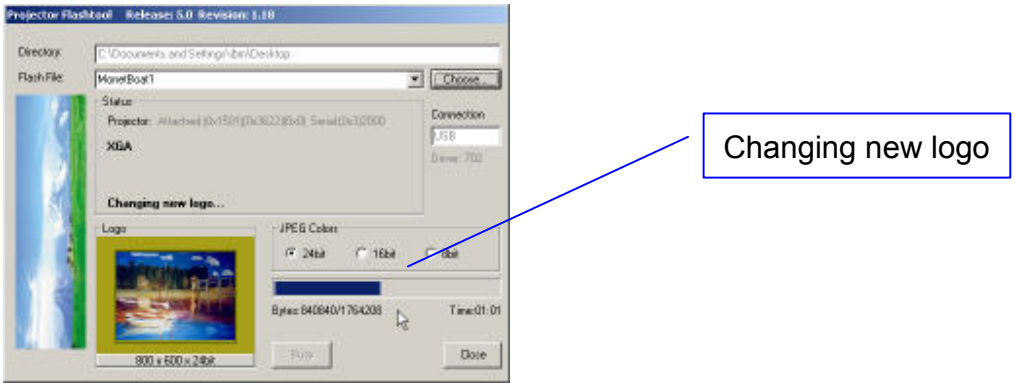
Press “OK” button to start the firmware update.

Caution:
DO NOT install any USB driver when erasing or upgrading process started.

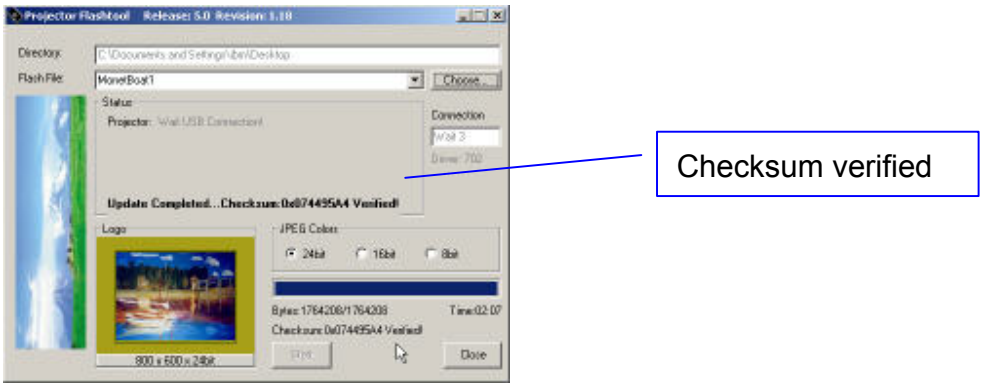
Step 9: According to the Flash-ROM technology, Flash-Tool needs to erase the old splash logo before adding the new one.



Step 10: After old logo erased, the new logo upgrading process will start.



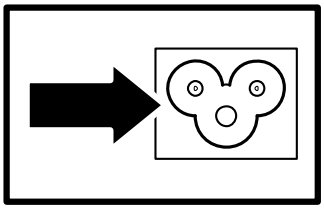
Step 11: After the new logo is changed, the Flash-Tool will perform the final validation. The dialog shows the checksum with a verification message!



Step 12: Done! Please Power off the projector.

5-4.
Starting and Shutting down the Projector

1. Connect the power cord to the projector.

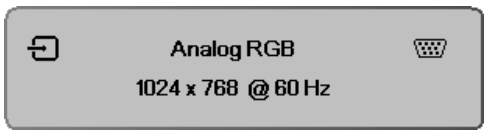


2. Turn On the connected devices.

3. Ensure the Power LED is steady (flashing) and then press the Power button to turn On the projector.

   The projector splash screen displays and connected devices are detected. If the connected device is a PC, press the appropriate keys on the computer keyboard to switch the display output to the projector. (Check the user manual of the PC to determine the appropriate Fn key combination to change display output.)

4. If more than one input device is connected, press the **Source** button repeatedly to switch among devices. (DVD and HDTV are supported through the VGA connector)



5. To turn off the projector, press the power button. The **Power / Press Power again** message appears. Press the **Power** button again to turn off the projector.

Caution:

Do not unplug the power cord until the Lamp LED (on Cooling mode) stops flashing–indicating the projector has cooled down.

5-5.

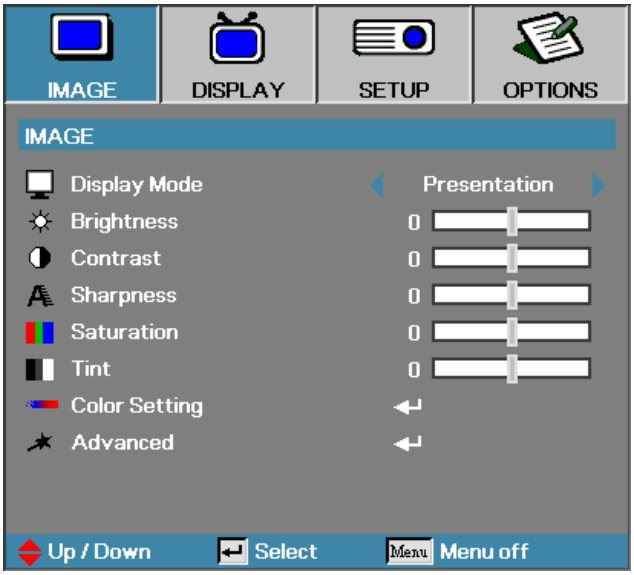
Setting an Access Password (Security Lock)

You can use the Remote digital buttons to set a password and prevent unauthorized use of the projector.

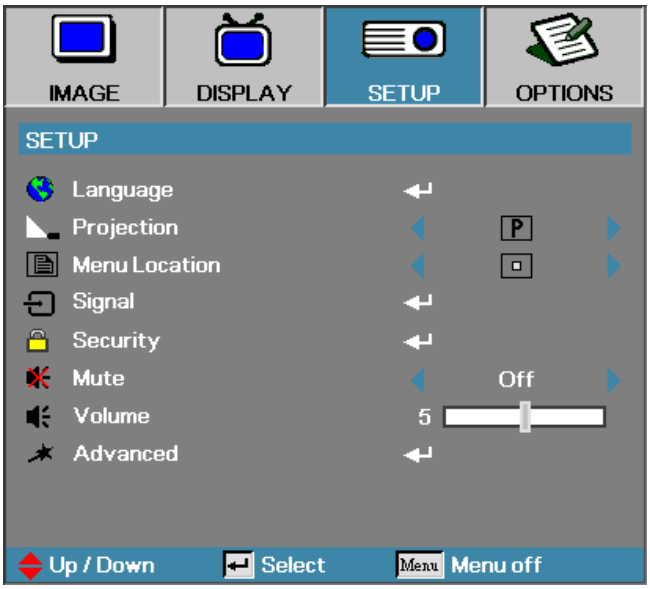
When enabled, the password must be entered after you power on the projector.

Keep the password in a safe place. Without the password, you will not be able to use the projector. If you lose the password, contact your reseller for information on clearing the password.

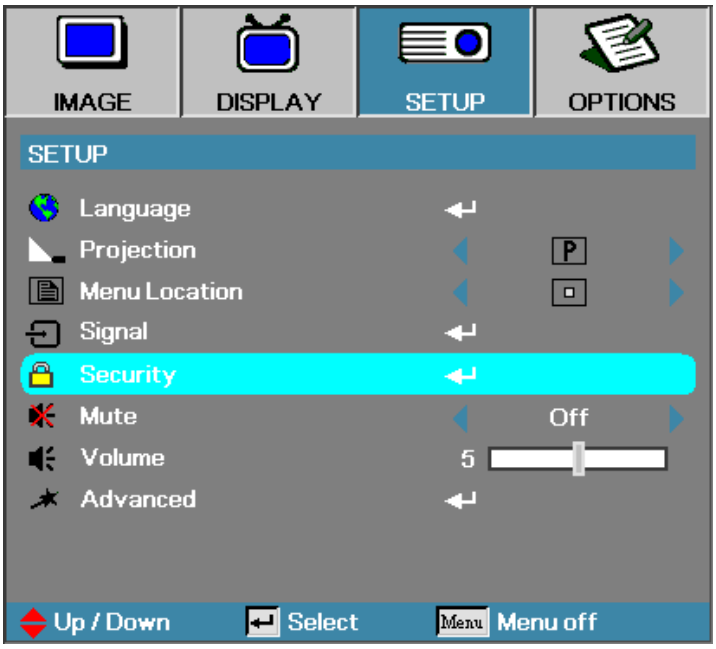
1. Press the **Menu** button to open the OSD menu.



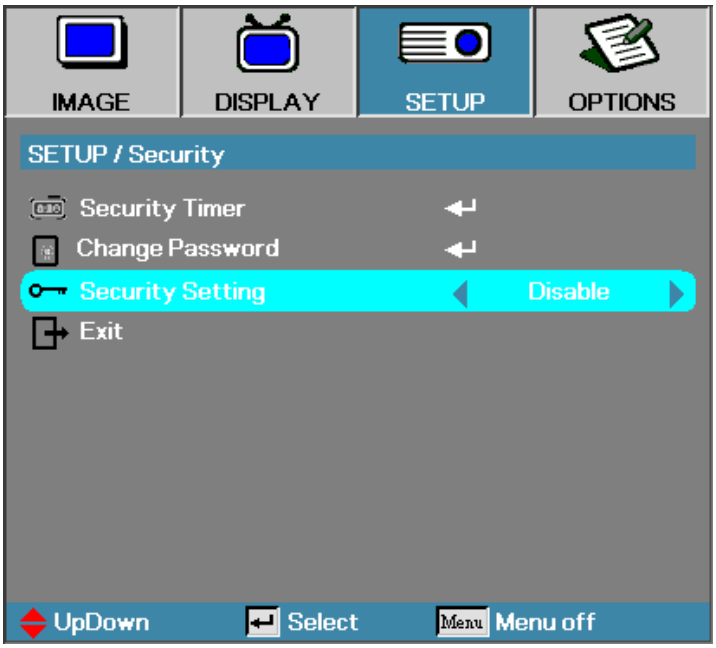
2. Press ◄► to move to the **SETUP** menu.



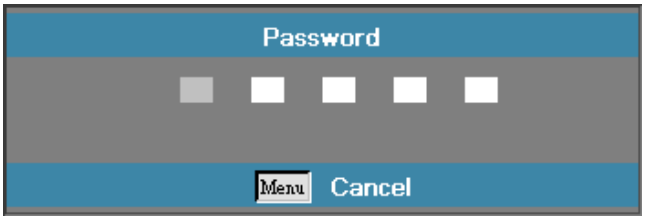
3. Press ▲▼ to select **Security**.



4. Press ▲▼ to select **Security Setting** and then press ◄► to select **Enable/Disable**.



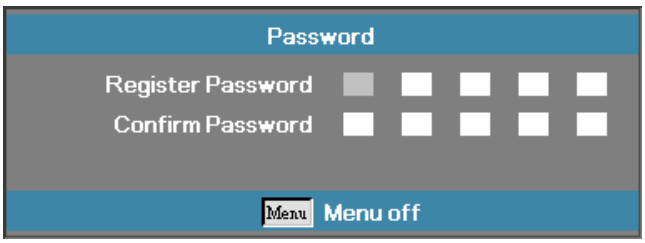
5. When the security setting is **Enabled**, you are prompted to enter a password soon after the projector is powered on.



Note: If the incorrect password is entered three times the projector auto shutdowns down after 10 seconds.

The default password is: <1> <2> <3> <4> <5>.

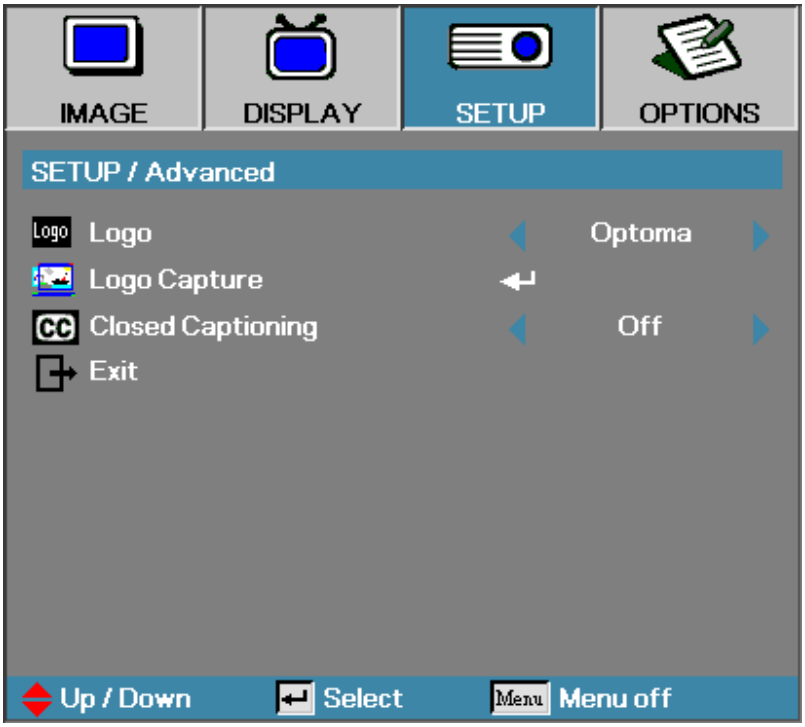
6. To change a password, enter the previous password when prompted.



7. Use the following keys <1>, <2>, <3>, <4>, <5>, <6>, <7>, <8>, <9> to define a new password.

5-6.
SETUP / Advanced

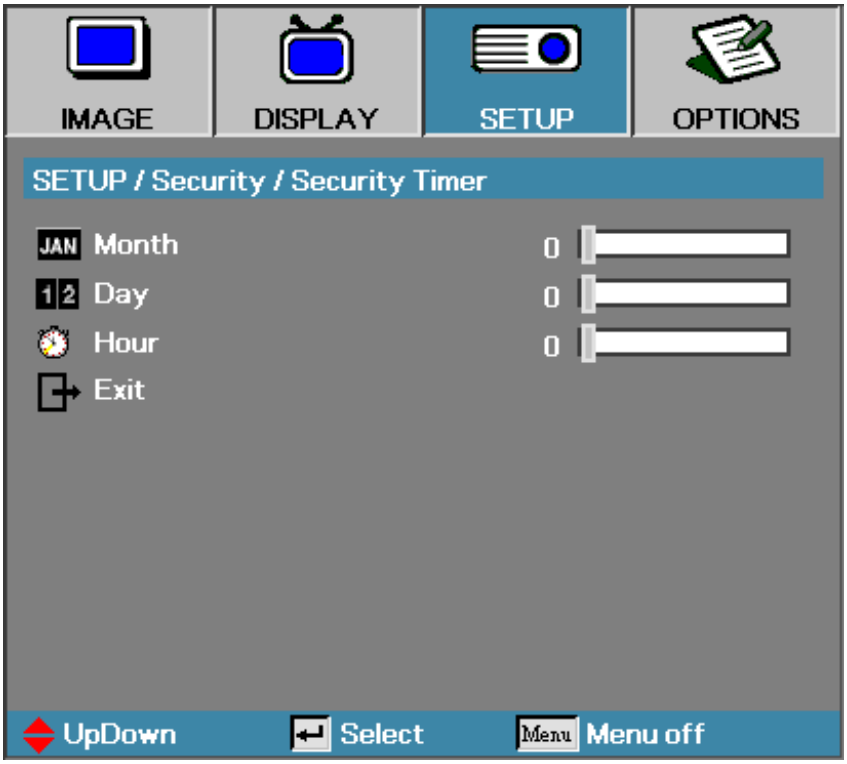
Press the **Menu** button to open the OSD menu. Press ◄► to move to the **SETUP** menu. Press ▲▼ to move up and down and select **Advanced**. Press ◄► to change values for settings, and then press **Enter** to confirm the new setting.



ITEM	DESCRIPTION	DEFAULT
Logo	Press ◄► to select the desired startup screen.	Optoma
Logo Capture	Capture the current display image as the user's logo with **Logo Capture**.	-

5-7.
Security Timer

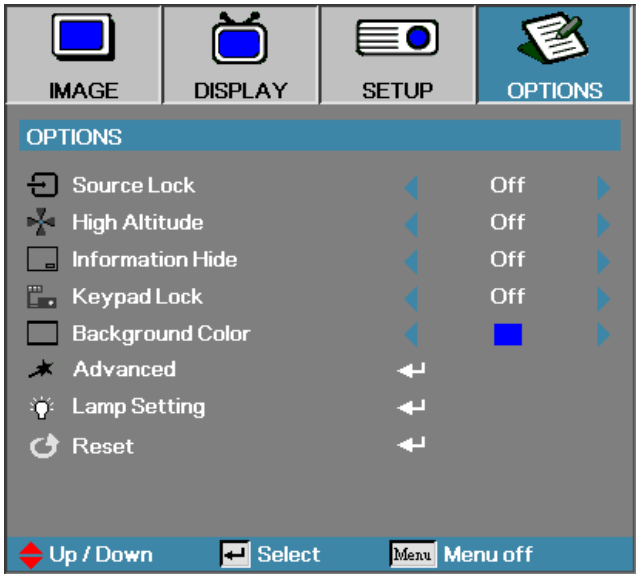
Press the **Menu** button to open the OSD menu. Press ◄► to move to the **SETUP** menu. Press ▲▼ to move up and down and select **Security**. Press ▲▼ to move up and down and select **Security Timer**. Press **Enter** to open the **Security Timer** submenu. Press ◄► to change values for settings, and then press **Enter** to confirm the new setting.

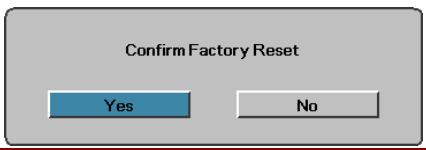


ITEM	DESCRIPTION	DEFAULT
Month	Set the number of months the projector can be used.	0
Day	Set the number of days for the projector to be active.	0
Hour	Set the number of hours for the projector to be active.	0

5-8. Options Menu

Press **Menu** to open the OSD menu. Press ◄► to move to the **OPTIONS** menu. Press ▲▼ to move up and down in the **OPTIONS** menu. Press ◄► to change values for settings, and then press **Enter** to confirm the new setting.

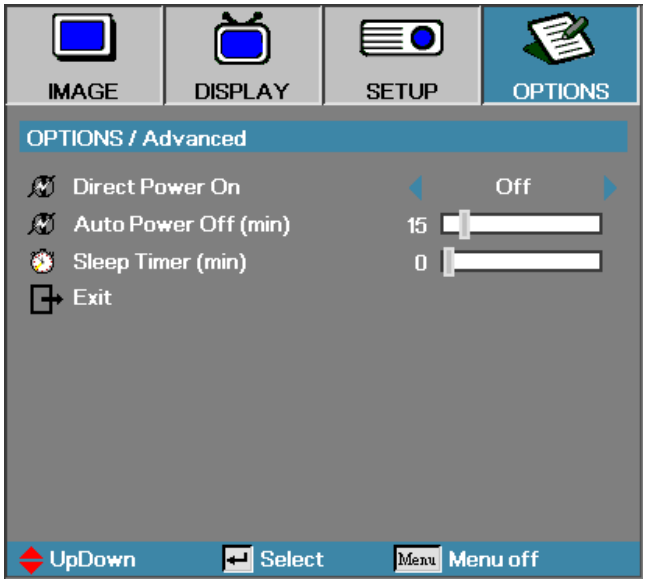


ITEM	DESCRIPTION	DEFAULT
Source Lock	Press ◄► to enable or disable the automatic search of all the input sources.	Off
High Altitude	Press ◄► to change fan speed; high speed in high temperature, high humidity or high altitude area.	Off
Keypad Lock	Press ◄► to enable or disable keypad function. The following warning message appears when you select **On**. 	Off
Background Color	Press ◄► to select different colors or blank screen.	Blue
Advanced	Press **Enter** to open the **OPTIONS/Advanced** menu.	
Lamp Setting	Press **Enter** to open the **OPTIONS/Lamp Setting** menu.	
Reset	Press **Enter** to reset all menu items to factory default. The following screen displays. Press **Yes** to confirm. 	

5-9.

OPTIONS / Advanced

Press **Menu** to open the OSD menu. Press ◄► to move to the **OPTIONS** menu. Press ▲▼ to move up and down in the **OPTIONS** menu. Select **Advanced** and press **Enter** to open the sub menu. Press ◄► to change values for settings, and then press **Enter** to confirm the new setting.



ITEM	DESCRIPTION	DEFAULT
Direct Power On	If the user selects **On** the projector will automatically power on when AC power is supplied.	Off
Auto Power Off (min)	Set the projector to automatically switch off the lamp when there is no signal after 15 minutes.	15
Sleep Timer (min)	Sets the countdown timer interval. The timer will begin, with or without a signal input. Then the projector will automatically power Off when the sleep timer countdown stops (in minutes).	0

Note:

Press any keypad/IR button to restore the original timer setting when a warning message displays.

6. Calibration

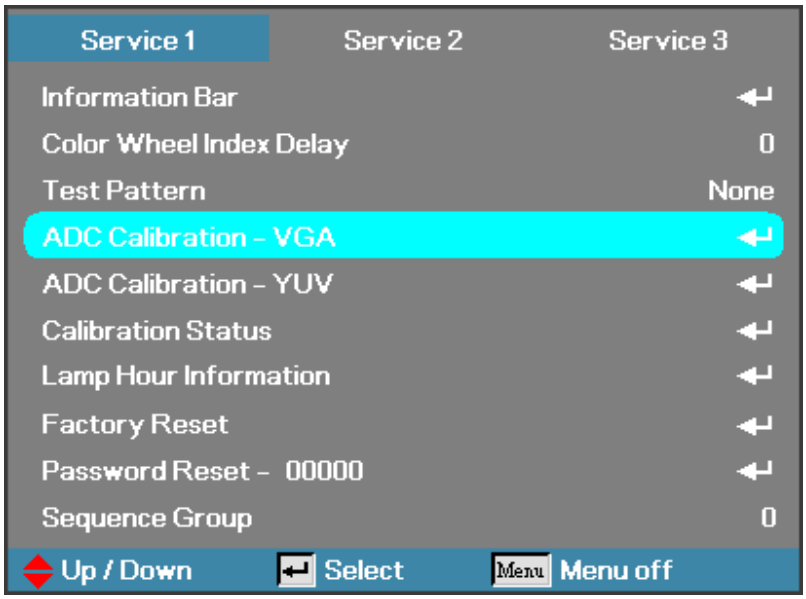
Step of into Service Mode

Step 1 : To turn on the projector, press the Power button on the keypad or IR controller,

. Until the **“Power Off? Press Power again”** message appears.

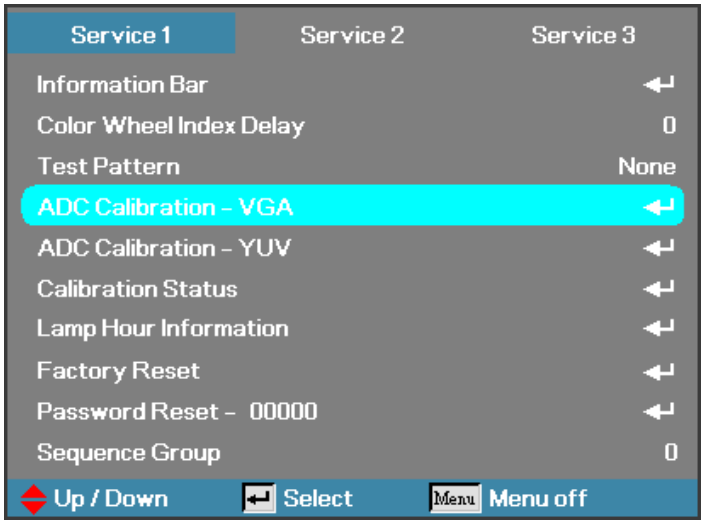
Step 2：Then press “Left”=>“Right”=>“Down”=>“Up” button on the keypad or IR controller.

Step 3：If password is correct then go into Service Mode。

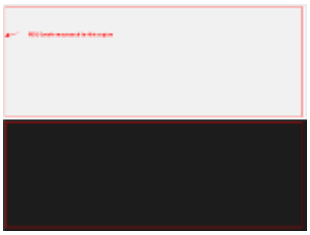


6-1. Calibrate Analog RGB (1024 x 768 @ 60Hz - XGA, 1080 x 800 @ 60Hz - WXGA):

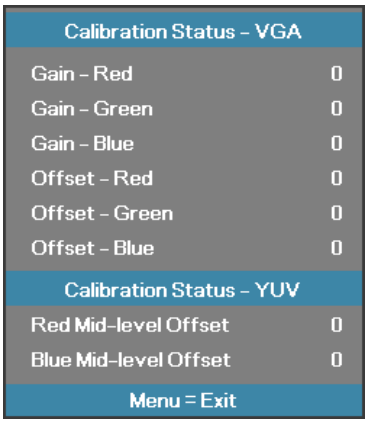
Step 1： In Service 1Mode select ADC Calibration - VGA In this menu input pattern with White(240,240,240) and Black(16,16,16) for calibrate VGA Source . After input ready press “Enter” or “Right” key to calibration。



Input Pattern



Step 2 : After complete the OSD will show the picture as follow , if not complete, just close the OSD。



Note : Offset & Gain Value

	Default	After ADC
Offset	**127**	
Gain	**127**	

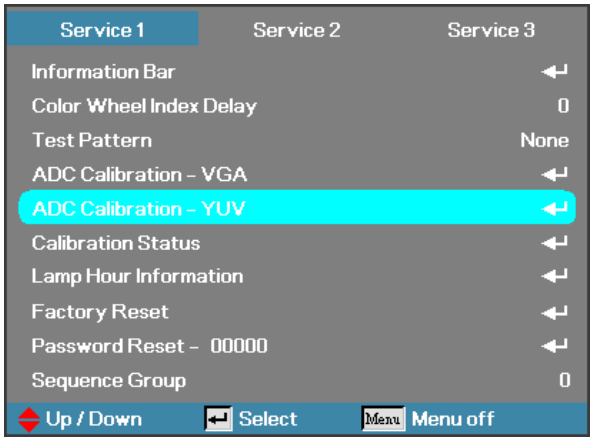
Step 3 : Compare internal white pattern and RGB source white pattern, if the brightness gap ratio of these two source is bigger than 3.5%.

6-2. Calibrate Analog YUV：

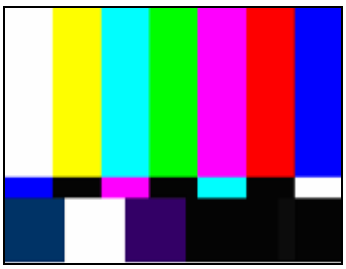
Equipment: VG828, must be take off H/V sync terminal from machine.

Step 1： In Service 1 Mode select ADC Calibration - YUV. In this menu input pattern with 75% SMPTE pattern for calibrate YUV Source and notice that the input source must be 480i format 。

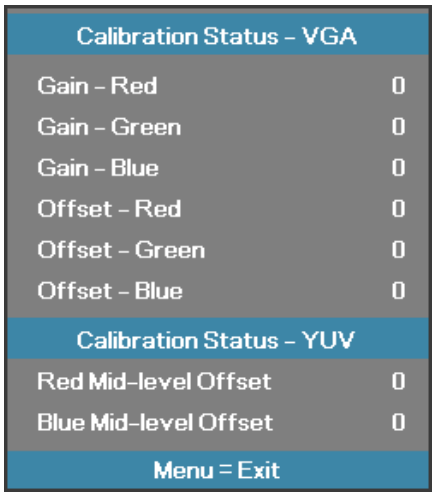
After input ready press “Enter” or “Right” key to proceed。



Input Pattern



Step 2 : After complete the OSD will show the picture as follow, if not complete, just close the OSD。



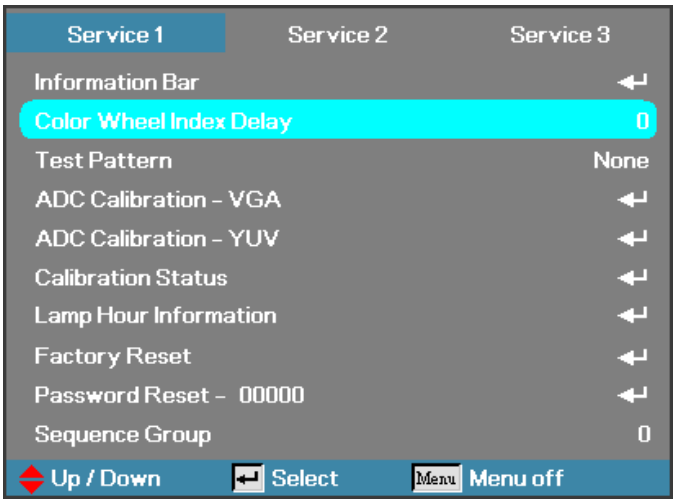
NOTE:

You can select Calibration Status – VGA or Calibration Status – YUV item to watch the calibrated value at any time。

6-3. Color Wheel Index, DMD Contrast and Brightness Adjustment @ RGB source

A. Switch Timing to “1024 x 768 @ 60Hz - XGA, 1080 x 800 @ 60Hz – WXGA”

B. In Service 1mode.



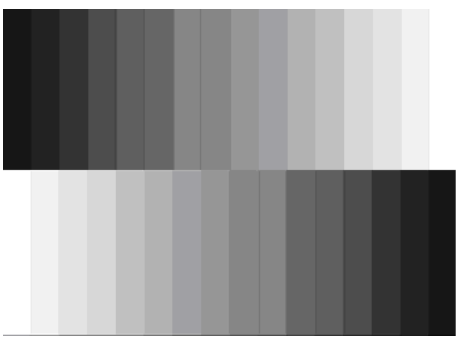
C. Switch to the Pattern 48 “32 Gray Scale”, and then decrease the Brightness Default Diff until all black gray scales are still distinct.

D. Switch to the Pattern 48 “32 Gray Scale”, and then increase the Contrast Default Diff until all white scales are still distinct.

E. Select “Color Wheel Index Delay”.
The default value is **322**. The range is 0~719.

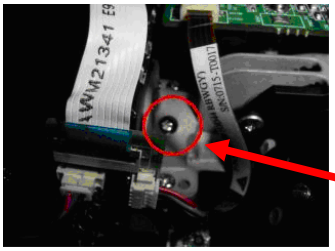
F. Switch Pattern 47 “16 Gray Scale”. Fine-tune until the gray scale still distinct. Decrease the color to the minimum. Then switch pattern 48 “32 Gray Scale”, tune off G, B channel, check the smooth in brighter level of the R 32 ramp. If not, fine tune “CW INDEX Delay Time” until R 32 ramp smooth.

Brightness and Contrast need to measure with RGB source
“1024 x 768 @ 60Hz - XGA, 1080 x 800 @ 60Hz – WXGA”



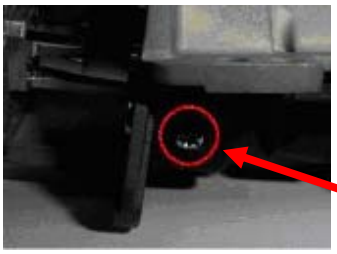
7. Color Border Adjustment

Step 1 : Adjust integration rod screw to eliminate color edge @ White pattern



1. Adjust the hexagonal screw in order to up and down side color border disappeared. By the color border is margin value on the down side of full white pattern. (Enable just disappearing of down side color border on the full white pattern)

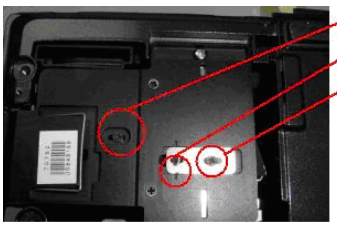
Screw 1



2. Adjust the hexagonal screw in order to right and lift side color border disappeared. (Enable just disappearing of right side color border on the full white pattern)

Screw 2

Step 2 : Adjust lamp module angle to set the maximum brightness measured by CL200



=> Adjusted screw.
=> The initial fixed point.
=> Fixed screw.

Loosed the fixed screw, CL200 is putted on the left corner of the screen（When full set is putted upside down）, to adjust the adjusted screw gets the highest luminance value then fixed the screw in the moment.

8. Projection Lamp

8-1. Replacing the Projection Lamp

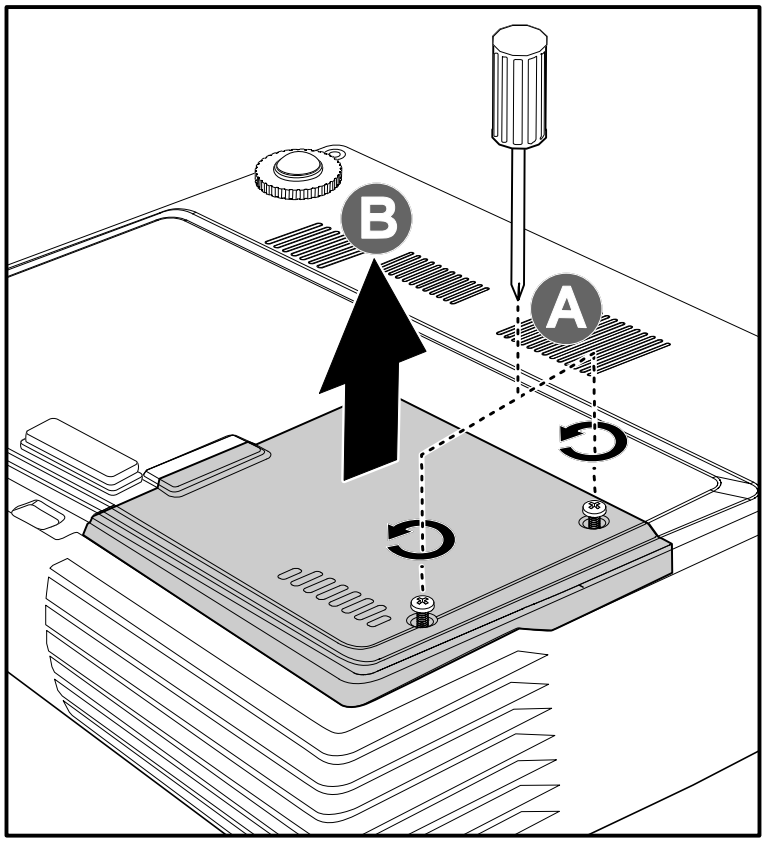
The projection lamp should be replaced when it burns out. It should only be replaced with a certified replacement part, which you can order from your local dealer.

1. The lamp contains a certain amount of mercury and should be disposed according to local ordinance regulations.
2. Avoid touching the glass surface of the new lamp: Doing so may shorten its operation life.

Warning:
Be sure to turn off and unplug the projector at least 30 minutes before replacing the lamp. Failure to do so could result in a severe burn.

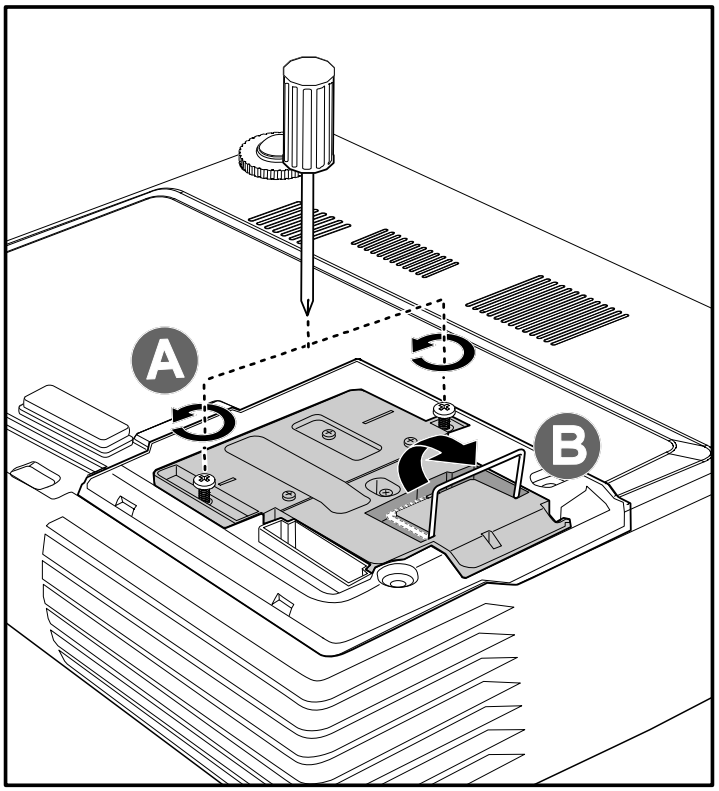
1. Loosen the two captive screws on the lamp compartment cover (**A**).

2. Remove the lamp compartment cover (**B**).

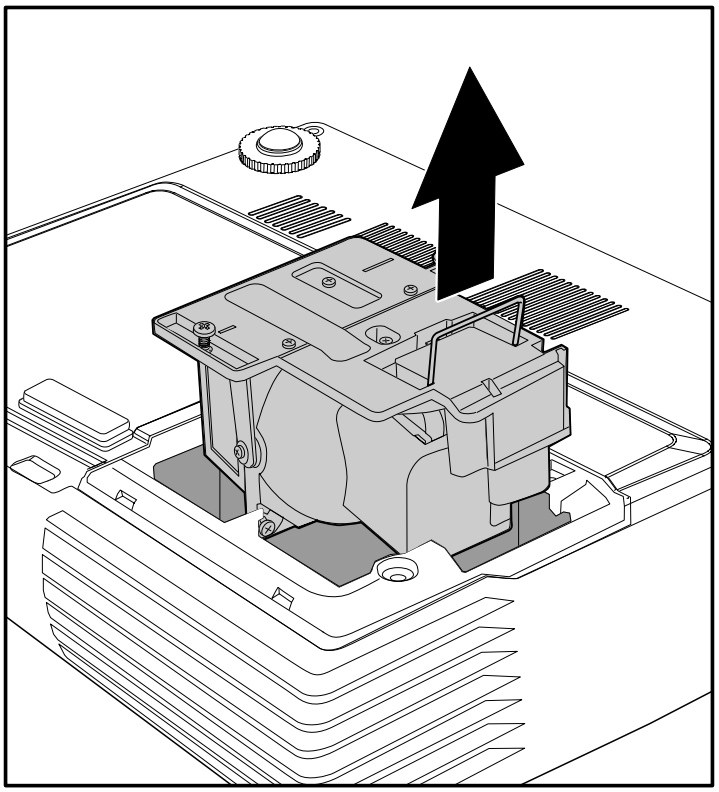


3 Remove the two screws from the lamp module (**A**).

4 Lift the module handle up (**B**).

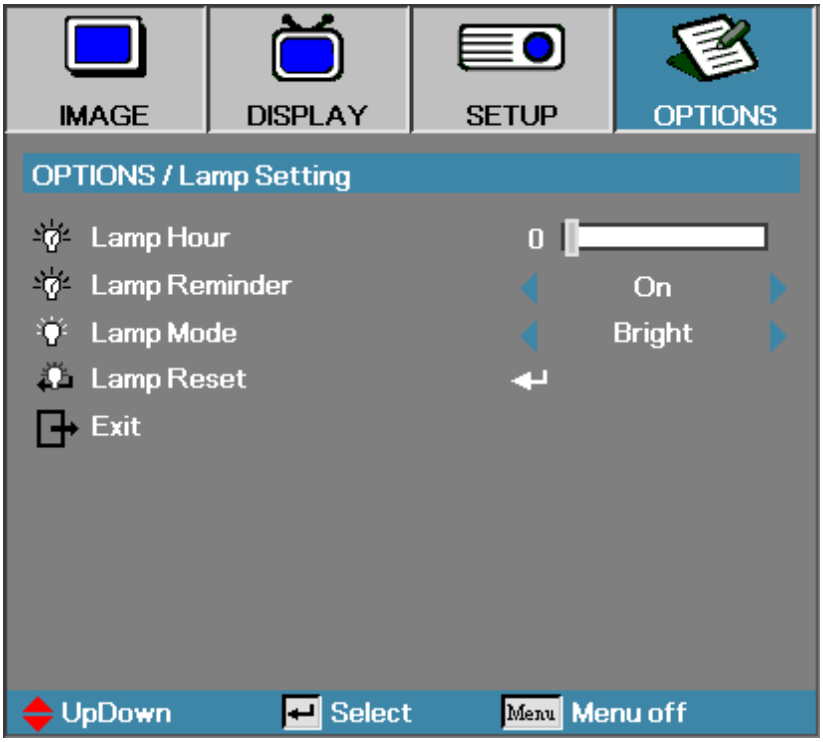


5 Pull firmly on the module handle to remove the lamp module.



8-2.
Lamp Setting

Press **Menu** to open the OSD menu. Press ◄► to move to the **OPTIONS** menu. Press ▲▼ to move up and down in the **OPTIONS** menu. Select **Lamp Setting** in the **OPTIONS** menu. Press ◄► to change values for settings, and then press **Enter** to confirm the new setting.



ITEM	DESCRIPTION	DEFAULT
Lamp Hour	Set the number of hours for the lamp to be active. Standard and bright counter are separated.	–
Lamp Reminder	Show or hide the warning message Note: The lamp reminder warning is only displayed when less than 30 hours remain.	On
Lamp Mode	Select the lamp mode for higher or lower brightness to save lamp life.	Bright
Lamp Reset	Press **Enter** to reset the lamp life hour after replacing the lamp.	

9. Cleaning

9-1. Cleaning the Lens

You can purchase optic lens cleaner from most camera stores. Refer to the following to clean the projector lens.

1. Apply a little optic lens cleaner to a clean soft cloth.
   (Do not apply the cleaner directly to the lens.)
2. Lightly wipe the lens in a circular motion.

Caution:

1. Do not use abrasive cleaners or solvents.

2. To prevent discoloration or fading, avoid getting cleaner on the projector case

9-2. Cleaning the Case

Refer to the following to clean the projector case.

1. Wipe off dust with a clean dampened cloth.
2. Moisten the cloth with warm water and mild detergent (such as used to wash dishes), and then wipe the case.
3. Rinse all detergent from the cloth and wipe the projector again

Caution:

To prevent discoloration or fading of the case, do not use abrasive alcohol-based cleaners.

10. SERVICE NOTE

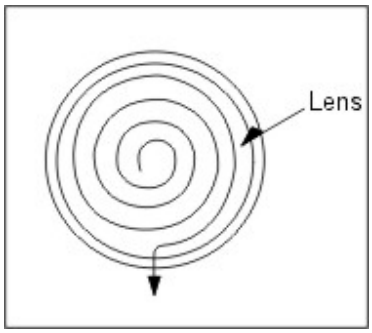
10-1. Cleaning

Carry out cleaning of the main unit and interior when replacing the lamp or making inspections.
The glass cleaner used with the following parts is as follows.

1)Cleaning the Projection Lens

*When dust and fingerprints, etc. are on the lens surface, use the designated glass cleaner to remove as shown in the figure at the right. For fingerprints and other soiling that are difficult to remove with a dry cloth, use a designated glass cleaner which has been moistened in water and then use a dry cloth to dry it off.

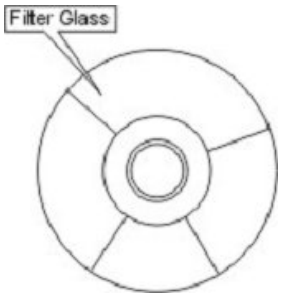
*The projection lens surface has a special coating. Do not use detergents or solvents on the surface.



2) Cleaning the Color Wheel Assy

*The color filter is made of thin glass. Be very careful when handing the filter.

*In case of fingerprints, etc. on the surface, clean in the same way as the projection lens unit as described in item 1). Do not use detergents as this could cause peeling of the color filter.



3) Cleaning the DMD

*The DMD surface is glass and can be cleaned. However, avoid scratches as these can have a direct influence on the image.

*In case of dust on the DMD surface use an air cleaner (with a device to prevent static, if possible) to clean off the surface.

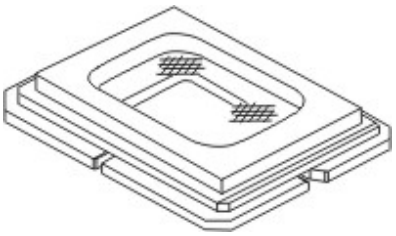
*In case of fingerprints, etc., add a small amount of water to the designated glass cleaner and wipe off in one direction. Then use the designated dry glass cleaner to wipe off in the same direction.

*Do not use absolute alcohol or other substances that could leave streaks after drying.

4) Cleaning the Reflecting Mirror

*Be careful not to touch the reflecting mirror. The surface is composed of vapor deposition silver and touching it directly with the hands can lead to burnishing.

*Do not clean other than with air.



5) Cleaning the Main Unit

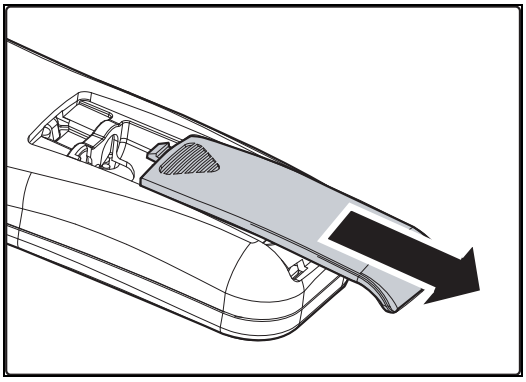
*Clean with a soft fuzz-free cloth. In case of severe soiling, use a well-wrung cloth dipped in a neutral agent to remove soiling and then finish with a dry cloth.

*Do not clean with thinner, benzene or similar agents as this could lead to deterioration or peeling of paint.

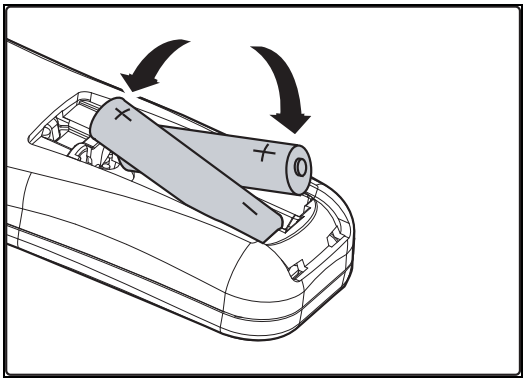
*In case of dust in suction or exhaust holes or the interior, disassemble the main unit and use air to remove the dust from the inside.

10-2. Inserting the Remote Control Batteries

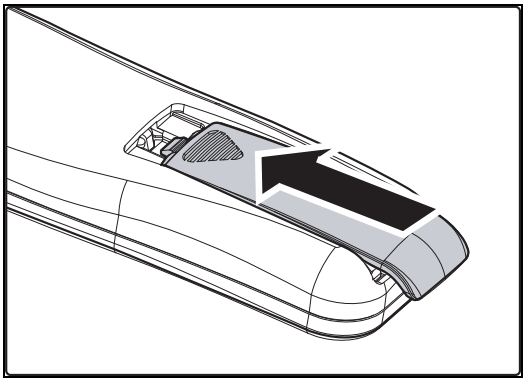
1. Remove the battery compartment cover by sliding the cover in the direction of the arrow.



2. Insert the batteries taking note of the polarity (+/-) as shown here.



3. Replace the cover.



Caution:

1. Only use AAA batteries (Alkaline batteries are recommended).
2. Dispose of used batteries according to local ordinance regulations.
3. Remove the batteries when not using the projector for prolonged periods.

10-3. Power & READY LED Blink Code Message

LED Error Messages

SYSTEM STATUS	POWER LED	Over Temp LED	LAMP LED
Lamp Ready	Flash	OFF	OFF
Start	ON	OFF	OFF
Cooling	Flash	OFF	OFF
Over Temperature	ON	ON	OFF
Thermal Break Sensor error	4 blinks	OFF	OFF
Lamp fail	5 blinks	OFF	OFF
Power Fan error	6 blinks	OFF	1 blinks
Lamp Fan error	6 blinks	OFF	2 blinks
Blower Fan error	6 blinks	OFF	3 blinks
Case Open	7 blinks	OFF	OFF
DMD error	8 blinks	OFF	OFF
Color wheel error	9 blinks	OFF	OFF

10-4. Factory Preset Display Modes

10-4-1. EP7155i _DP-3518

Signal	Resolution	H-Sync (KHz)	V-Sync (Hz)	Composite S_Video	Component	RGB
NTSC	–	15.734	60.0	○	–	–
PAL/SECAM	–	15.625	50.0	○	–	–
VESA	640 x 350	37.9	85.1	–	–	○
	640 x 400	37.9	85.1	–	–	○
	720 x 400	37.9	85.0	–	–	○
	640 x 480	31.5	60.0	–	–	○
	640 x 480	37.9	72.8	–	–	○
	640 x 480	37.5	75.0	–	–	○
	640 x 480	43.3	85.0	–	–	○
	800 x 600	35.2	56.3	–	–	○
	800 x 600	37.9	60.3	–	–	○
	800 x 600	46.9	75.0	–	–	○
	800 x 600	48.1	72.2	–	–	○
	800 x 600	53.7	85.1	–	–	○
	1024 x 768	48.4	60.0	–	–	○
	1024 x 768	56.5	70.1	–	–	○
	1024 x 768	60.0	75.0	–	–	○
	1024 x 768	68.7	85.0	–	–	○
	1280 x 800	49.7	59.8	–	–	○
	1280 x 800	62.8	74.9	–	–	○
	1280 x 800	71.6	84.8	–	–	○
	1280 x 1024	64.0	60.0	–	–	○
	1280 x 1024	80.0	75.0	–	–	○
	1280 x 1024	91.1	85.0	–	–	○
	1400 x 1050	65.3	60.0	–	–	○
	1440 x 900	55.9	60.0	–	–	○
	1600 x1200	75.0	60	–	–	○

Apple Macintosh	640 x 480	35.0	66.7	–	–	○
	832 x 624	49.7	74.5	–	–	○
	1024 x 768	60.2	74.9	–	–	○
	1152 x 870	68.7	75.1	–	–	○
SDTV	480i	15.734	60.0	–	○	–
	576i	15.625	50.0	–	○	–
EDTV	576p	31.3	50.0	–	○	–
	480p	31.5	60.0	–	○	–
HDTV	1080i	33.8	60.0	–	○	–
	1080i	28.1	50.0	–	○	–
	720p	37.5	50.0	–	○	–
	720p	45.0	60.0	–	○	–

○ : Supported frequency

– : Not Supported frequency

*The native resolution of the panel is 1024 x 768

Resolution others than native resolution may be display with uneven size of text or line.

*The color of mean Displayable only. (4:3 only)

*The color of mean may have a little noise is acceptable

* HDTV timing main check tool is DVD player, VG828 is secondary.

10-4-2. EP1691i_DP-7618

Signal	Resolution	H-Sync (KHz)	V-Sync (Hz)	Composite S_Video	Component	RGB
NTSC	–	15.734	60.0	○	–	–
PAL/SECAM	–	15.625	50.0	○	–	–
VESA	640 x 350	37.9	85.1	–	–	○
	640 x 400	37.9	85.1	–	–	○
	720 x 400	37.9	85.0	–	–	○
	640 x 480	31.5	60.0	–	–	○
	640 x 480	37.9	72.8	–	–	○
	640 x 480	37.5	75.0	–	–	○
	640 x 480	43.3	85.0	–	–	○
	800 x 600	35.2	56.3	–	–	○
	800 x 600	37.9	60.3	–	–	○
	800 x 600	46.9	75.0	–	–	○
	800 x 600	48.1	72.2	–	–	○
	800 x 600	53.7	85.1	–	–	○
	1024 x 768	48.4	60.0	–	–	○
	1024 x 768	56.5	70.1	–	–	○
	1024 x 768	60.0	75.0	–	–	○
	1024 x 768	68.7	85.0	–	–	○
	1280 x 800	49.7	59.8	–	–	○
	1280 x 800	62.8	74.9	–	–	○
	1280 x 800	71.6	84.8	–	–	○
	1280 x 1024	64.0	60.0	–	–	○
	1280 x 1024	80.0	75.0	–	–	○
	1280 x 1024	91.1	85.0	–	–	○
	1400 x 1050	65.3	60.0	–	–	○
	1440 x 900	55.9	60.0	–	–	○
	1600 x1200	75.0	60	–	–	○

Apple Macintosh	640 x 480	35.0	66.7	–	–	○
	832 x 624	49.7	74.5	–	–	○
	1024 x 768	60.2	74.9	–	–	○
	1152 x 870	68.7	75.1	–	–	○
SDTV	480i	15.734	60.0	–	○	–
	576i	15.625	50.0	–	○	–
EDTV	576p	31.3	50.0	–	○	–
	480p	31.5	60.0	–	○	–
HDTV	1080i	33.8	60.0	–	○	–
	1080i	28.1	50.0	–	○	–
	720p	37.5	50.0	–	○	–
	720p	45.0	60.0	–	○	–

○ : Supported frequency

– : Not Supported frequency

*The native resolution of the panel is 1280 x 800

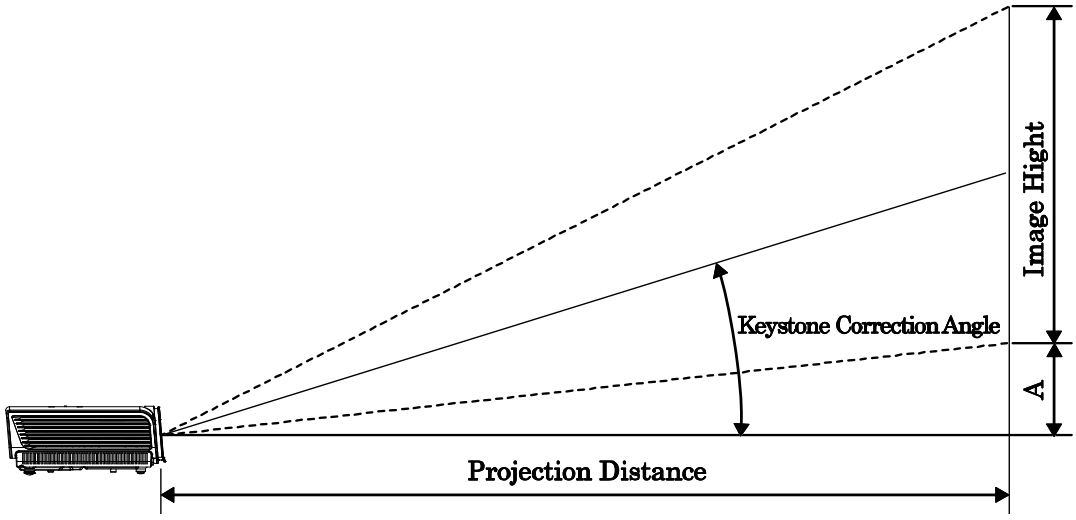
Resolution others than native resolution may be display with uneven size of text or line.

*The color of mean Displayable only. (4:3 only)

*The color of mean may have a little noise is acceptable

* HDTV timing main check tool is DVD player, VG828 is secondary.

11. Diagonal Image Size



EP7155i Serial

	Tele				Wide			
Distance (m)	1.34	3.58	4.47	8.94	1.54	3.09	3.86	11.58
Diagonal Size (“)	30	80	100	200	40	80	100	300
Keystone Correction Angle (degree)	12.3	12.3	12.3	12.3	14.2	14.2	14.2	14.2
Image Height (mm)	457	1219	1524	1864	610	1219	1524	4572
Image Width (mm)	610	1626	2032	3762	813	1626	2032	6096
A (mm)	(64)	(171)	(213)	(427)	(85)	(171)	(213)	(640)

EP1691i Serial

	Tele				Wide			
Distance (m)	1.14	3.03	3.79	7.58	1.32	2.64	3.30	9.89
Diagonal Size (“)	30	80	100	200	40	80	100	300
Keystone Correction Angle (degree)	12.3	12.3	12.3	12.3	14.1	14.1	14.1	14.1
Image Height (mm)	404	1077	1346	2692	539	1077	1346	4039
Image Width (mm)	646	1723	2154	4308	862	1723	2154	6462
A (mm)	(46)	(124)	(155)	(310)	(62)	(124)	(155)	(464)

12. EDID

EP7155i Serial (Analog)

128 BYTES OF EDID CODE :

	0	1	2	3	4	5	6	7	8	9
0	00	FF	FF	FF	FF	FF	FF	00	3E	8D
10	F4	1B	01	01	01	01	01	12	01	03
20	0E	00	00	78	0A	85	09	A1	5A	5A
30	97	25	12	4F	58	BF	EF	80	31	59
40	45	59	61	59	81	19	81	99	90	40
50	95	00	A9	40	6C	20	00	90	51	20
60	1F	30	48	80	36	00	00	00	00	00
70	00	18	00	00	00	FF	00	0A	20	20
80	20	20	20	20	20	20	20	20	20	20
90	00	00	00	FD	00	2F	56	0F	64	11
100	00	0A	20	20	20	20	20	20	00	00
110	00	FC	00	45	50	37	31	35	35	69
120	0A	20	20	20	20	20	00	56		

(08-09) ID Manufacturer Name _____ = OTM

(11-10) Product ID Code _____ = 1BF4(Hex), 7156(Dec)

(12-15) Last 5 Digits of Serial Number _____ = 16843009(Dec), 01010101(Hex)

(16) Week of Manufacture _____ = 1

(17) Year of Manufacture _____ = 2008

(18) EDID Version Number _____ = 1

(19) EDID Revision Number _____ = 3

(20) VIDEO INPUT DEFINITION :

Analog Signal

0.700V/0.300V

Separate

Composite

Sync on Green

(21) Maximum Horizontal Image Size _____ = 0 mm

(22) Maximum Vertical Image Size _____ = 0 mm

(23) Display Gamma _____ = 2.20

(24) DPMS and Supported Feature(s) :

Preferred Timing Mode

RGB Color Display

(25-34) CHROMA INFO :

RedX : 0.631

RedY : 0.352

GreenX : 0.353
GreenY : 0.591
BlueX : 0.145
BlueY : 0.070
WhiteX : 0.311
WhiteY : 0.345

(35) ESTABLISHED TIMING I :
720 X 400 @ 70Hz (IBM,VGA)
640 X 480 @ 60Hz (IBM,VGA)
640 X 480 @ 67Hz (Apple,Mac II)
640 X 480 @ 72Hz (VESA)
640 X 480 @ 75Hz (VESA)
800 X 600 @ 56Hz (VESA)
800 X 600 @ 60Hz (VESA)

(36) ESTABLISHED TIMING II :
800 X 600 @ 72Hz (VESA)
800 X 600 @ 75Hz (VESA)
832 X 624 @ 75Hz (Apple, Mac II)
1024 X 768 @ 60Hz (VESA)
1024 X 768 @ 70Hz (VESA)
1024 X 768 @ 75Hz (VESA)
1280 X 1024 @ 75Hz (VESA)

(37) Manufacturer's Reserved Timing :
1152 X 870 @ 75Hz (Apple, Mac II)

(38-53) Standard Timing Identification :
640 X 480 @ 85Hz
800 X 600 @ 85Hz
1024 X 768 @ 85Hz
1280 X 800 @ 85Hz
1280 X 1024 @ 85Hz
1400 X 1050 @ 60Hz
1440 X 900 @ 60Hz
1600 X 1200 @ 60Hz

(54- 71) Detailed Timing / Descriptor Block 1 :
1280 X 800 : Pixel Clock : 83 MHz

Horizontal Image Size : 0 mm Vertical Image Size : 0 mm
Refreshed Mode : Non-Interlaced
Horizontal :
Active Time : 1280 pixels Blanking Time : 400 pixels
Sync Offset : 72 pixels Sync Pulse Width : 128 pixels
Border : 0 pixels
Vertical :
Active Time : 800 lines Blanking Time : 31 lines
Sync Offset : 3 lines Sync Pulse Width : 6 lines
Border : 0 lines
None(Normal)
Digital Separate, Horizontal Polarity (-) Vertical Polarity (-)
(72- 89) Detailed Timing / Descriptor Block 2 :
Monitor Serial Number :
(90-107) Detailed Timing / Descriptor Block 3 :
Monitor Range Limits :
Horizontal Freq. : 15-100 kHz
Vertical Freq. : 47-86 Hz
Pixel Clock : 170 MHz
(108-125) Detailed Timing / Descriptor Block 4 :
Monitor Name :
EP7155i
(126) No Extension EDID Block(s)
(127) CheckSum is OK

HDMI

EDID Block 0, Bytes 0-127 [00H-7FH]
Block Type: EDID 1.3

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	FF	FF	FF	FF	FF	FF	00	3E	8D	F4	1B	01	01	01	01
10	01	12	01	03	80	00	00	78	0A	85	09	A1	5A	5A	97	25
20	12	4F	58	BF	EF	80	31	59	45	59	61	59	81	19	81	99
30	90	40	95	00	A9	40	6C	20	00	90	51	20	1F	30	48	80
40	36	00	00	00	00	00	00	18	00	00	00	FF	00	0A	20	20
50	20	20	20	20	20	20	20	20	20	20	00	00	00	FD	00	32
60	55	1F	5B	11	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	45	50	37	31	35	35	69	0A	20	20	20	20	20	01	DA

(08H-09H) ID Manufacturer Name _____ = OTM
(0AH-0BH) Product ID Code _____ = 1BF4
(0CH-0FH) Last 5 Digits of Serial Number _____ = UNUSE
(10H) Week of Manufacture _____ = 01
(11H) Year of Manufacture _____ = 2008
(12H) EDID Version Number _____ = 1
(13H) EDID Revision Number _____ = 3
(14H) VIDEO INPUT DEFINITION:
Digital Signal
(15H) Maximum Horizontal Image Size _____ = mm
(16H) Maximum Vertical Image Size _____ = mm
(17H) Display Gamma _____ = 2.20
(18H) DPMS and Supported Feature(s):
Preferred Timing Mode
Display Type = R/G/B Color
(19H-22H) CHROMA INFO:
Red x - 0.631 Green x - 0.353 Blue x - 0.145 White x - 0.311
Red y - 0.352 Green y - 0.591 Blue y - 0.070 White y - 0.345
(23H) ESTABLISHED TIMING I:
720 x 400 @ 70Hz (IBM,VGA)
640 x 480 @ 60Hz (IBM,VGA)
640 x 480 @ 67Hz (Apple,Mac II)
640 x 480 @ 72Hz (VESA)
640 x 480 @ 75Hz (VESA)
800 x 600 @ 56Hz (VESA)

800 x 600 @ 60Hz (VESA)

(24H) ESTABLISHED TIMING II:

800 x 600 @ 72Hz (VESA)

800 x 600 @ 75Hz (VESA)

832 x 624 @ 75Hz (Apple,Mac II)

1024 x 768 @ 60Hz (VESA)

1024 x 768 @ 70Hz (VESA)

1024 x 768 @ 75Hz (VESA)

1280 x 1024 @ 75Hz (VESA)

(25H) Manufacturer's Reserved Timing:

1152 x 870 @ 75Hz (Apple,Mac II)

(38-53) Standard Timing Identification:

Standard Timing ID 1: 640 x 480 @85Hz

Standard Timing ID 2: 800 x 600 @85Hz

Standard Timing ID 3: 1024 x 768 @85Hz

Standard Timing ID 4: 1280 x 800 @85Hz

Standard Timing ID 5: 1280 x 1024 @85Hz

Standard Timing ID 6: 1400 x 1050 @60Hz

Standard Timing ID 7: 1440 x 900 @60Hz

Standard Timing ID 8: 1600 x 1200 @60Hz

(36H-47H) Detailed Timing / Descriptor Block 1:

1280x800 Pixel Clock: 83.00 MHz

Horizontal Image Size: 0 mm Vertical Image Size: 0 mm

Refreshed Mode: Non-Interlaced Normal Display - No Stereo

Horizontal:

Active Count: 1280 pixels Blanking Count: 400 pixels

Sync Offset: 72 pixels Sync Pulse Width: 128 pixels

Border: 0 pixels Frequency: 49.40 kHz

Vertical:

Active Count: 800 lines Blanking Count: 31 lines

Sync Offset: 3 lines Sync Pulse Width: 6 lines

Border: 0 lines Frequency: 59.45 Hz

Digital Separate, Horizontal Polarity (-) Vertical Polarity (-)

(48H-59H) Detailed Timing / Descriptor Block 2:

Monitor Serial Number:

(5AH-6BH) Detailed Timing / Descriptor Block 3:

Monitor Range Limits:
Min Vertical Freq - 50 Hz
Max Vertical Freq - 85 Hz
Min Horiz. Freq - 31 kHz
Max Horiz. Freq - 91 kHz
Pixel Clock - 170 MHz
GTF - Not Used

(6CH-7DH) Detailed Timing / Descriptor Block 4:

Monitor Name:
EP7155i

(7EH) Block No: (01) Extension EDID Block(s)
(7FH) CheckSum OK

EDID Block 1, Bytes 128-255 [80H-FFH]
Block Type: CEA EDID Timing Extension Version 3

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	03	1F	71	4C	02	03	11	12	84	05	13	14	10	06	15
10	1F	23	09	07	04	83	01	00	00	65	03	0C	00	10	00	8C
20	0A	D0	8A	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00
30	18	8C	0A	D0	90	20	40	31	20	0C	40	55	00	C4	8E	21
40	00	00	18	01	1D	00	72	51	D0	1E	20	6E	28	55	00	C4
50	8E	21	00	00	1E	01	1D	00	BC	52	D0	1E	20	B8	28	55
60	40	C4	8E	21	00	00	1E	00	00	00	FF	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	56

Extended Block Type: CEA 861B
Detailed Timing Blocks start at Byte:(1FH)
Native Format: (0x1)
(03H) DTV (Basic Audio)
(03H) YCbCr (4:4:4)
(03H) YCbCr (4:2:2)

Video Short Block Description:
(05H) 720 x 480 P 59.94/60Hz 4:3
(06H) 720 x 480 P 59.94/60Hz 16:9
(07H) 720 x 576 P 50Hz 4:3
(08H) 720 x 576 P 50Hz 16:9
(09H) 1280 x 720 P 59.94/60Hz 16:9 Native Mode
(0AH) 1920 x 1080 I 59.94/60Hz 16:9
(0BH) 1280 x 720 P 50Hz 16:9
(0CH) 1920 x 1080 I 50Hz 16:9
(0DH) 1920 x 1080 P 59.94/60Hz 16:9
(0EH) 720(1440) x 480 I 59.94/60Hz 4:3
(0FH) 720(1440) x 576 I 50Hz 4:3
(10H) 1920 x 1080 P 50Hz 16.9
Audio Short Block Description:
Numbers of Audio Channels (2)
(12H) Linear PCM(IEC60958)
Audio Supported: 32kHz, 44.1kHz, 48kHz
Audio Bit Rate: 24Bit
Speaker Short Block Description:
Playload(3 bytes 16H-18H)
Speakers (16H): FL/FR
17H: Reserved
18H: Reserved
Vendor Specific Short Block Description:
Bytes: 03H, 0CH, 00H, 10H, 00H
(1FH - 31H) Detailed Timing Descriptions:
720x480 Pixel Clock: 27.00 MHz

Horizontal Image Size: 531 mm Vertical Image Size: 398 mm
Refreshed Mode: Non-Interlaced Normal Display - No Stereo
Horizontal:
Active Count: 720 pixels Blanking Count: 138 pixels
Sync Offset: 16 pixels Sync Pulse Width: 62 pixels
Border: 0 pixels Frequency: 31.47 kHz
Vertical:
Active Count: 480 lines Blanking Count: 45 lines

Sync Offset: 9 lines Sync Pulse Width: 6 lines
Border: 0 lines Frequency: 59.94 Hz
Digital Separate, Horizontal Polarity (-) Vertical Polarity (-)
(31H - 43H) Detailed Timing Descriptions:
720x576 Pixel Clock: 27.00 MHz

Horizontal Image Size: 708 mm Vertical Image Size: 398 mm
Refreshed Mode: Non-Interlaced Normal Display - No Stereo
Horizontal:
Active Count: 720 pixels Blanking Count: 144 pixels
Sync Offset: 12 pixels Sync Pulse Width: 64 pixels
Border: 0 pixels Frequency: 31.25 kHz
Vertical:
Active Count: 576 lines Blanking Count: 49 lines
Sync Offset: 5 lines Sync Pulse Width: 5 lines
Border: 0 lines Frequency: 50.00 Hz
Digital Separate, Horizontal Polarity (-) Vertical Polarity (-)
(43H - 55H) Detailed Timing Descriptions:
1280x720 Pixel Clock: 74.25 MHz

Horizontal Image Size: 708 mm Vertical Image Size: 398 mm
Refreshed Mode: Non-Interlaced Normal Display - No Stereo
Horizontal:
Active Count: 1280 pixels Blanking Count: 370 pixels
Sync Offset: 110 pixels Sync Pulse Width: 40 pixels
Border: 0 pixels Frequency: 45.00 kHz
Vertical:
Active Count: 720 lines Blanking Count: 30 lines
Sync Offset: 5 lines Sync Pulse Width: 5 lines
Border: 0 lines Frequency: 60.00 Hz
Digital Separate, Horizontal Polarity (+) Vertical Polarity (+)
(55H - 67H) Detailed Timing Descriptions:
1280x720 Pixel Clock: 74.25 MHz

Horizontal Image Size: 708 mm Vertical Image Size: 398 mm
Refreshed Mode: Non-Interlaced Normal Display - No Stereo

Horizontal:

Active Count: 1280 pixels	Blanking Count: 700 pixels
Sync Offset: 440 pixels	Sync Pulse Width: 40 pixels
Border: 0 pixels	Frequency: 37.50 kHz

Vertical:

Active Count: 720 lines	Blanking Count: 30 lines
Sync Offset: 5 lines	Sync Pulse Width: 5 lines
Border: 0 lines	Frequency: 50.00 Hz

Digital Separate, Horizontal Polarity (+) Vertical Polarity (+)

(67H - 79H) Detailed Timing Descriptions:

Monitor Serial Number:

(7FH) CheckSum Valid

EP1691i Serial

Analog

128 BYTES OF EDID CODE :

	0	1	2	3	4	5	6	7	8	9
0	00	FF	FF	FF	FF	FF	FF	00	3E	8D
10	9C	06	01	01	01	01	01	12	01	03
20	0E	00	00	78	0A	85	09	A1	5A	5A
30	97	25	12	4F	58	BF	FF	80	31	59
40	45	59	61	59	81	19	81	99	90	40
50	95	00	A9	40	A9	1A	00	A0	50	00
60	16	30	30	20	37	00	00	00	00	00
70	00	18	00	00	00	FF	00	0A	20	20
80	20	20	20	20	20	20	20	20	20	20
90	00	00	00	FD	00	2F	55	0F	64	11
100	00	0A	20	20	20	20	20	20	00	00
110	00	FC	00	45	50	31	36	39	31	69
120	0A	20	20	20	20	20	00	0F		

HDMI

EDID Block 0, Bytes 0-127 [00H-7FH]
Block Type: EDID 1.3

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	00	FF	FF	FF	FF	FF	FF	00	3E	8D	9C	06	01	01	01	01
10	01	12	01	03	80	00	00	78	0A	85	09	A1	5A	5A	97	25
20	12	4F	58	FF	FF	80	31	59	45	59	61	59	81	19	81	99
30	90	40	95	00	A9	40	A9	1A	00	A0	50	00	16	30	30	20
40	37	00	00	00	00	00	00	18	00	00	00	FF	00	0A	20	20
50	20	20	20	20	20	20	20	20	20	20	00	00	00	FD	00	32
60	55	1E	5B	11	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	45	50	31	36	39	31	69	0A	20	20	20	20	20	01	53

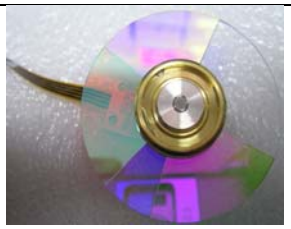
EDID Block 1, Bytes 128-255 [80H-FFH]
Block Type: CEA EDID Timing Extension Version 3

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	03	1F	71	4C	02	03	11	12	84	05	13	14	10	15	06
10	1F	23	09	07	04	83	01	00	00	65	03	0C	00	10	00	8C
20	0A	D0	8A	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00
30	18	8C	0A	D0	90	20	40	31	20	0C	40	55	00	C4	8E	21
40	00	00	18	01	1D	00	72	51	D0	1E	20	6E	28	55	00	C4
50	8E	21	00	00	1E	01	1D	00	BC	52	D0	1E	20	B8	28	55
60	40	C4	8E	21	00	00	1E	00	00	00	FF	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	56

13. Spare part list

ITEM	DESCRIPTION	Q'ty	P/N	EP7155i Serial	EP1699i Serial
1	COVER MG ALLOY TOP WXGA DP-3518	1	3450436101	V	
2	COVER MG ALLOY TOP OPTOMA WXGA DP-7618	1	3450438301		V
3	COVER MG ALLOY BOTTOM	1	3450436500	V	V
4	COVER MG ALLOY IO	1	3450438400	V	V
5	FRONT COVER PC 945VB BLK	1	3392098300	V	V
6	LAMP DOOR PC 945VB BLK	1	3392098400	V	V
7	LENS CAP+WIRE ASSY DP-3510	1	3398038002	V	V
8	PLATE CW GLASS 44	1	3797697300	V	V
9	DC FAN ASSY BFB04512HD-F00 L140/80 45 B	1	3620441011	V	V
10	DC FAN ASSY NUB0612HB-R00 L45/15 60 S	2	3622607111	V	V
11	PWB ASSY DMD BOARD J5P-01 (EP7155i)	1	5600600576	V	
12	PWB ASSY DMD BOARD J5P-02 (EP1691i)	1	5600600586		V
13	PWB ASSY MAIN BD J5P-R04-ODXG1 DP-3518	1	5600601341	V	
14	PWB ASSY MAIN BD J5P-R03-ODWG1 DP-7618	1	5600601339		V
15	PWB ASSY HDMI BOARD J5P-R01-A	1	5600600941	V	V
16	PWB ASSY LVPS BOARD DP-3510	1	5600600588	V	V
17	PWB ASSY IR BOARD J5P-R01-G	1	5600601343	V	V
18	PWB ASSY INDEX BD J5P-R01-G	1	5600601344	V	V
19	PWB ASSY POWER+BALLAST BD	1	5600600925	V	V
20	PWB ASSY KEYPAD BD J5P-R01-G	1	5600601342	V	V
21	OPTICAL MODULE XGA ASSY DP-3518	1	5811116479-S	V	
22	OPTICAL MODULE WXGA ASSY DP-7618	1	5811116478-S		V
23	LAMP MODULE J5P 220W ASSY	1	5811100908-SOT	V	V
24	CARTON PAPER 252*192*314	1	3513570000	V	V
25	BAG PE 400*260 for projector	1	3500950400	V	V
26	BAG PE 420*510 for carrying case	1	3500951100	V	V
27	END BLOCK PULP 240*180*69.5	2	3518818800	V	V
28	AC POWER CORD 3P #18*3C L1800 BLK (USA & TW)	1	3090231000	V	V
29	AC POWER CORD 2P 3G*0.75mm^2 L1800 BLK (EUR)	1	3090231400	V	V
30	AC POWER CORD 3P 3G*0.75mm^2 L1800 BLK (CHINA)	1	3090231900	V	V
31	AC POWER CORD 2P 3G*0.75mm^2 L1800 BLK (KOREA)	1	3090230900	V	V

32	CABLE SIGNAL D-SUB D-SUB L2000 BLK	1	3081405002	V	V
33	CABLE SIGNAL USB USB L1800 IVORY	1	3081404900	V	V
34	BP CD SOFTWARE	1	3534093200	V	V
35	CARD QUICK START J5P 3LB OPTOMA	1	5010083800	V	V
36	CARRYING CASE PU 245*195*140	1	3523500900	V	V
37	REMOTE CONTROLLER 27KEYS DP-3510 OPTOMA	1	5041818200	V	V

1	2	3	4
5	6	7	8
			
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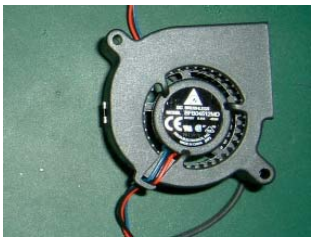			
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			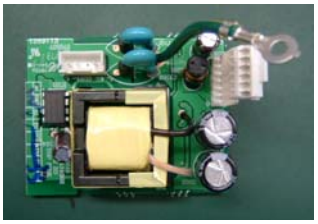
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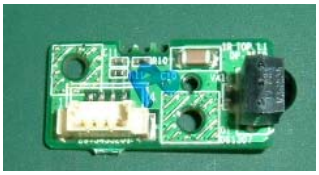	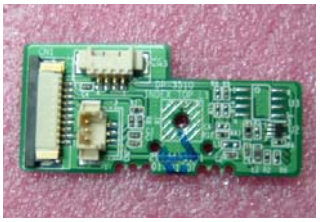		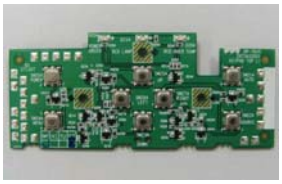

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		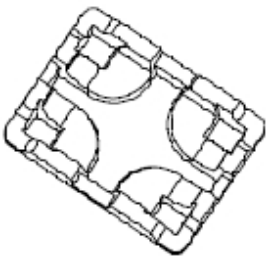	
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		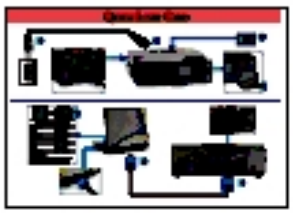	
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